

# C·O·N·T·E·N·T·S

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**Publishing Office:**  
30 North La Salle St., Chicago, Ill.  
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✕

**Editorial Offices:**  
39 Cortlandt St., New York City  
(Phone Cortlandt 8362)  
F. M. WATERS, Manager

✕

**Philadelphia, Pa.**  
C. W. NORDLAND,  
5626 Baltimore Ave.

✕

**San Francisco, Calif.**  
J. K. NOVINS,  
Gillette Bldg., 830 Market St.  
(Phone: Douglass 4667)



## EDITORIAL STAFF

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## Editorial

ROBERT RANDOLPH, Editor

### Ourselves to Blame

*"Who steals my purse steals trash,  
But he who filches from me my good  
name  
Robs me of that which not enriches  
him  
And makes me poor indeed."*

The \$8,000,000 advertising program of the American Tobacco Company, whose newly-adopted slogan, "Reach for a Lucky instead of a Sweet," has aroused the ire of no less than twenty major food industries upon whom a substantial proportion of this country's population is directly or indirectly dependent for their livelihood, is a glaring example of what happens when prosperity goes to the head of Big Business.

Unlike some of our hysterical neighbors, however, we do not believe that the American Tobacco Company's advertising is being aimed at the Candy Industry, or that its progenitors are insincere in the charges made against sweets or the claims made for their cigarettes—howbeit the results are much the same.

We believe it is a mistake to regard the officials of that company as deliberately misleading the public with malicious falsehoods in order to further the clandestine sale of their product to children. What then?

This campaign of anti-sweets advertising is the cumulative effect of superstitions, misbeliefs and medical fallacies which the interested industries have too long permitted to remain unchallenged. During recent years great masses of scientific evidence proving the absolute human necessity of energy-giving sweets have been laid at our doorstep by eminent doctors, dietitians, university research workers, the U. S. Department of Agriculture, and others. Little, if any, of this data from the scientific literature has filtered through to the man in the street.

He doesn't know the relation between calories and fatigue, or between sugar and

steady nerves, or the even more fundamental question of why Nature implanted in us a compelling desire for things sweet. We venture to say that Mr. Hill, the president of the American Tobacco Company, whose final o.k. released this misdirected flood of stockholders' money, is not remotely aware of the answers to these questions and hence to the justice of our grievance against his company.

And whose fault is that? It has been our duty to educate Mr. Hill and the millions of mortals like him to the facts adduced by these recent scientific investigations; and in that task we have failed ignominiously.

The National Confectioners' Association, after a year of fruitless advertising, has finally evolved four pages of first rate advertising copy. True, it lacks the punch which a good character illustrator could put into it, but it is nevertheless excellent copy.

But only four pages over a two months' period in one national magazine. Have not the sweets industries long maintained that the newspapers are not a satisfactory medium for the sale of their products? Yet the libel *against* sweets is being carried into every city in the United States with a population of over 100,000, *through the medium of these same ineffectual (?) newspapers*. O, what meat for them! Why, even the ice man now advertises through his association more than we do.

Letters of protest? Who ever read a disagreeable, threatening batch of mail beyond the tenth letter? Life's too short.

Nation-wide boycott? Educational measures failing, such action presents genuine possibilities. It might prove worth while if it accomplished nothing more than to bring together the discordant elements of the various interested industries. A boycott of Lucky Strike cigarettes by the twenty-odd industries with their vast employe populations, could undoubtedly bring about a salutary re-



form in the American Tobacco Company's advertising policy, if indeed it did not cripple them altogether.

Yet we cannot but feel that even this perfectly lawful reprisal would be not one whit more sportsmanlike than the blundering attack which has so grossly offended the country's sense of fair play.

Altogether, an industry on the defensive

is a sorry spectacle. Nobody loves a loser. So let's make it a good fight while we are about it. Dig down in your jeans for those rainy day dollars. Your advertising department needs them now as it never needed them before. For we *must* put over, individually and as industries collectively, the untold story of the vital need of hungry humans for wholesome sweets.

## Turkey Sees Solution to Infestation Problem

**T**HAT Turkey is seriously considering the adoption of American methods of lethal gas fumigation for sterilizing figs and other products coming from the moth-infested areas, is welcome news to the candy industry.

M. Ahmed, Commercial Delegate for the Republic of Turkey, has evinced great interest in the vacuum-carbon disulphide process which was first conceived by the California Departments of Agriculture, and has requested numerous catalogues and descriptive circulars to forward to the various Chambers of Commerce throughout Turkey and Asia Minor. He said that he was convinced that the adoption of this or some other process would solve the fig packers' present difficulties. The National Biscuit Company, probably the largest consumer of figs in this country, recently despatched a corps of technical men to the infested areas to install fumigative equipment capable of protecting their supplies at the point of origin, and it is not unlikely that this procedure may ultimately be forced upon other large consumers of similarly infested raw materials.

While the new restrictions of the U. S. Department of Agriculture have exercised a telling effect upon shippers all over the globe, nowhere have they caused greater apprehension and anxiety than among the big fig producers of Portugal and of Smyrna. During the past year huge tonnages have been impounded by the United States Marshal and ordered shipped back to the countries of origin. Their best customer has become their severest critic.

American fig users have always been told that because the fig blossoms had to be fertilized by an insect, it was absolutely impossible to bring into this country figs which were entirely free of worms and web. These succulent morsels just had to be there or there would be no figs. It has been many years since this unsavory little myth first went the rounds of the consuming

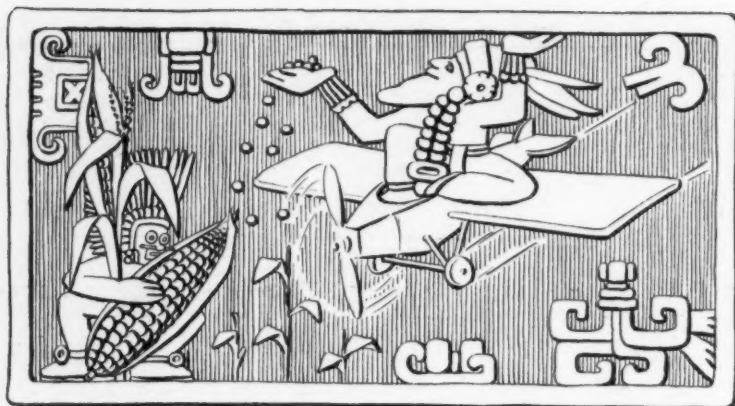
trade until now, possibly three-fourths of the fig buyers in this country (including the importers themselves) have come to regard these fig-worms in the light of a necessary evil.

As a matter of fact, the insect which is accredited with cross-pollinating the cultivated edible fig of commerce with the wild caprifig *does not even belong to the same species or family of insects* as that which causes all the heartaches and monetary losses when one tries to emulate Mother Goose.

The Blastophage, or fig-fertilizing insect, belongs to the same order of insects as the bee, the ant and the wasp, and while its good offices are more or less a "condition precedent" to the cultivation of edible figs, its contact with the world seemingly ends there. The arch-destroyer, whose sorry wake upsets the commerce of the world and calls forth the condemnation of governments, comes not of the order of the bee and the wasp, but is a *moth*, similar in character and habits (though larger in size) to our own little domesticated Indian Meal Moth.

Various primitive expedients are now employed by the packers to drive these insects and their voracious larvae away. A familiar practice consists in putting a few bayberry leaves in each box. Bay leaves are the "moth balls" of the fig industry and possess the same degree of efficacy. The most recent attempt to ward off the ravages of these insects is seen in the shipment to this country this fall of a large consignment of figs with the hook ends cut off—a remedy which might be likened to cutting off one's head to cure dandruff.

Much thanks is due the editorial staff of THE MANUFACTURING CONFECTIONER for the pioneer work which they have done in arousing the interest of such packers as Aram Hamparsum, Sheriff Ramzey and Nazmi Toptoglou to the possibilities of remedying the present intolerable conditions by means of mechanical sterilization.



The good god Quetzalcoatl lands on Central America with Theobroma, the "food of the gods."

## "Use Less Accra"

—Counsels ROBERT WYMPER,  
International Chocolate Expert,  
Author of "Cocoa and Chocolate"

### Part One: "Chats on Chocolate"

(EDITOR'S NOTE—Mr. Wympers' articles will appear exclusively in THE MANUFACTURING CONFECTIONER.)

**W**HAT in the name of Quetzalcoatl is wrong with the Chocolate Industry?

This seems to be the right time and place for asking this question, since similar queries have recently been made regarding the Candy Industry and Children, Politics and Parents, New York Weather and the Gulf Stream, Wrapped Caramels and Coatings, and a host of other national and international matters. Moreover, this is the age of "How much do you know?" and "Can you answer this question?"

The answer to our first question is "Nothing" or "Everything," according to whether you happen to be making money or not out of cacao and its products on the dollar basis, and "Everything" or "Nothing" as you are a quality man or just a quantity man. Yet, having begged the question here in proper manner myself, I would point out that, out of the three or four names mentioned by the persons writing to the MANUFACTURING CONFECTIONER in answer to the Editor's request for nominations to the Hall of Chocolate Fame, two unquestionably stand very high



It would be a much surprised and disillusioned Rip Van Winkle who got his first taste of modern chocolate.

among makers of the best chocolate in the States. And it was just these names that I held up, in an article to European chocolate makers eighteen months ago, as the two examples that might well be followed by the many.

Now, when Quetzalcoatl, who I have it on the best authority was a dear personal friend of the then-reigning Emperor of Heaven, was sent down to earth to bring to man "The Food of the Gods" and to teach him how to grow it, he landed in Central America with the most

marvelous quality of cacao seeds for planting in that fertile soil. It is recorded that at that time the earth teemed with wonderful fruits, that a head of corn was as much as a man could carry, and that fibres grew on trees already dyed with the most fashionable hues. Whether or not it is due to mere human beings laying impious hands upon corn and canning it, or to the invention of synthetic dyestuffs, the fact remains that the Gods have since removed a great many of the original benefits conferred by them on unsophisticated mankind. But it is certain that, owing to a lack of proper appreciation on the part of consumers, the Cacao as it came down from Heaven in the Golden Days of Anahuac (date not known, but before the tea episode at Boston) is not recognizable in the product sold under that name in sacks today.

### "Quality" Education Needed

In endeavoring now *not* to avoid the issue, I am asking another question in answer to my first: How many of the chocolate manufacturers themselves know anything, except the price, of the raw material upon which the quality of their goods so largely depends?

Dr. Bundesen has already brought home to the candy and chocolate manufacturers with telling effect the fact that they really don't begin to know anything about the virtues of their finished products, and it appears that he is to direct a much needed publicity campaign to tell the world how to make better children by giving them more candy. This is a step better than the advertisement that appeared for twenty years on all tins of biscuits exported by a well-known English biscuit house to China (true, in Chinese hieroglyphics and therefore quite Chinese to the rather puritanical directors) to the effect that "These delectable biscuits are humbly recommended to those high-born persons desiring to produce multitudinous male children that a sufficiency of prayers may be offered to the spirits of the illustrious parents when they should honorably pass to the Great Beyond."

Further, I would point out the need of another campaign to destroy the illusion that chocolate makes for fat, since some 20% reduction in consumption has been attributed to the prevailing fashion of slimness among women folk. In my own

case, a mere male, I have consumed and am consuming vast quantities of chocolate annually and am as thin as a rake. Why, in spite of the fall in consumption of chocolate for this reason, the consumption of sugar per capita is increasing in the United States is a little difficult to understand.

It seems unfair to ask Dr. Bundesen's customers to sit patiently by whilst someone else tells manufacturers that they know nothing about the raw materials they are using. Like as not, they will, before the session is over, advise the orator to go to Panama or to another tropical place. As my ways lie often in the tropics, I can bear this suggested journey with more equanimity than most—so here goes!

The average chocolate manufacturer has never seen a cacao pod growing on a tree, a cacao bean fermented or dried, nor has he any idea of the labor, sweat, difficulties and cost involved in the production of the cacao which he knows only as little brown beans in gunny bags; nor has he any conception of the parts that natural variety and proper fermenting and drying of cacao play in securing the finest aroma and most mellow taste. If he knows anything about the quality even of the finished cacao bean, it is not very apparent in most of the chocolate flooding the world today.

There is a reply to this statement which I had better anticipate in the form of another question. Does it matter a single cacao bean whether a manufacturer of anything knows anything about the production of anything he handles as a so-called raw material? Certain schools of manufacturers claim that the less they know outside their own imme-

diate processes the better they are able to get on in business. By the same token God looks after fools, idiots and drunkards, which to a large extent is true, since those whom He loves die young. Then let us fold our hands and continue to eat cakes as mother used to make them and to drink synthetic gin.

It is not everyone who likes mixed metaphors, so let us get down to facts. No one can afford to ignore anything pertaining to his processes, because someone, sooner or later, with greater wisdom comes along, beats him at his own job, out-sells him on his own lines or makes something better or newer with the same materials that drives the inferior product off the market. This is a universal law to which, as far as I know, there is no exception.

#### Excessive Use of Accra, a Menace to Chocolate Quality

Education of the public is a phrase often heard on glib lips. Who is to educate the people if not the

manufacturer and purveyor of goods? And how can the manufacturer or salesman educate others if he himself is not educated on the subject in hand? However, the wholesome truths of Dr. Bundesen, whilst nourishing one portion of the human body, should provide food also for the gray matter said to be situated in the head.

Cacao still grows at its best in Central America—a statement of fact even if unpatriotic on the part of a Britisher making it. But it seems necessary for an alien to point out further that in Central America—in Costa Rica and Panama—grows the only cacao in the whole world as yet produced by an all-American firm. To one who has helped and seen the tremendous efforts made by Trinidad to get recognized as the British possession producing the best all-round cacao, and who has listened to endless curses, particularly of the virile American variety, at the iniquity of

(Continued on page 54)



A modern version of "David and Goliath"



**F**ROM the time the present queen of confections was first crudely made from the gummy substance of the mallow growing wild in native marshes, the manufacture of marshmallow has been beset by a series of baffling difficulties. This has caused manufacturers to experiment extensively with varying combinations of raw materials in varying amounts. Their accomplishments along this line have been of little practical value. So if a manufacturer chances upon a marshmallow which appeals to his trade and which he is therefore eager to duplicate, he naturally feels that if he can but determine and safeguard the formula, all will be happy ever after. But as many know from bitter experience, the problem of reproducing a given character of marshmallow is not so simple. Why? Because, what is equally if not more important than sticking to a formula is that the batch be properly conditioned or standardized after it has been compounded.

Let us first look into the composition of marshmallow, checking the function of each of its ingredients to see whether it is possible to ascribe a given difficulty to the raw

## The RAW MATERIALS of

BY FRANK R. JOHNSON

materials or to the treatment following the assembly of the batch in the beater.

The ingredients commonly employed are, of course, sugar, corn syrup, invert sugar, gelatin, water, and flavor. In addition to these primary ingredients, a large number of secondary substances may be introduced, among them—acids, alkalies, albumen, agar-agar, a number of gums, starch and dextrines, malt extract or powder, pectin, corn sugar and the so-called soft sugars.

### *Moisture Retention, Key to Shelf-Life*

The idea underlying the use of most of these substances is the prospect that they may retain a small amount of the moisture and thereby prolong the life of the marshmallow by keeping it tender for a longer time. Based on capacity for the absorption of water and resistance to desiccation, gelatin is surpassed only by agar-agar, the use of which has definite limiting factors. The usual result of using what has been referred to as secondary substances can probably be best explained by reference to starch, cassava flour and the like. Those who have used these materials to any extent have made what at first appeared to be a great marshmallow—only to find that it soon reverted to a pasty, yellowish or badly fermented mass.

If the raw materials chosen for use are purchased from reliable concerns, if they are suitable for the work at hand, of proper grade and occasionally checked to see that these standards are maintained, they should give the manufacturer little concern. However, changing from one brand to another, unless correction is made for the difference in the characteristics of the two products, is often hazardous. For example: if one who has been using a bone gelatine with a pH of 4.0 changes to a calf-skin gelatin having a pH of 6.0, the marshmallow would undoubtedly possess new and possibly unlooked-for properties. Some of these new properties might be highly desirable—more often they are not, but can usually be offset by changing time





# the MARSHMALLOW BATCH

and temperature conditions. The same is true of a change in corn syrup supply, the latter vary according to brand from 4.5 to 6 pH.

## *Cooked Marshmallow Requires "Strong" Sugars*

Much has been said about the selection of sugar for marshmallow. We will consider four sugars, cane, beet, brown, and invert. The strength of a sugar is measured by its resistance to inversion during a candy test. (Described in the M. C. issues of January, 1927, and August, 1927.) This is a practical method of determining the amount of inversion which results from heating sugar and is particularly useful in selecting sugar for the manufacture of hard candy. This strength of sugar must be considered in making a *cooked* marshmallow.

The average strength of refined sugars well be found to vary from about 92 to 98,—96 being satisfactory for most work. This figure represents the actual percentage of sucrose which remains unchanged after completion of the candy test, the balance having been broken down into invert and various decomposition products. The grain or crystal size is important since it affects the rate of solution. That is, in making hot process marshmallow, a coarse granulated sugar can be used to better advantage than in cold process marshmallow. A coarse granulated sugar has a better color and contains less impurities—the larger the crystals or granulation, the purer the sugar. (See the M. C. Survey Competitive Refined Sugars, pp. 52-58, August, 1928, issue.)

For particular work the color of sugar in solution should be checked because of its effect on the whiteness of the marshmallow.

The degree of acidity, hydrogen ion concentration or pH of sugar—whichever term you prefer—varies between 6.5 and 7.5, depending upon the amount of ash and therefore the quality of the cane or beet and degree of refining. The pH of the

sugar has little effect on the final pH of the marshmallow and is an important factor only to the extent that it indicates the amount of ash and the susceptibility of the sugar to inversion.

## *Sucrose Slow to Grain*

If all characteristics were the same, cane and beet sugar should work equally well—as a matter of fact beet sugar produces less inversion in the candy test than cane sugar. Beet sugar contains more ash and is therefore more susceptible to discoloration if used in a cooked marshmallow. Sucrose gives a characteristic structure to marshmallow which cannot be exactly duplicated by the use of other sugars. Among the chief characteristics of this structure are its shortness of break and slowness of crystallization (graining). It is this rate of crystallization of sucrose which determines the "life" of a marshmallow.

Where employed at all, the use of brown sugar should be confined to coated marshmallow, owing to the large amount of invert sugar which it contains. A very tasty coat marshmallow can be made with brown sugar and it will keep very well. Number



## RAW MATERIALS OF THE MARSHMALLOW BATCH

12 soft, or brown sugar, contains about 85 per cent sucrose, 7.5 per cent invert, 4 per cent water, 1.2 per cent ash, and 2.3 per cent organic matter. As the number of the sugar decreases the percentage of sucrose increases while all other factors decline.

Concerning invert sugar—comparatively few confectioners seem to appreciate its merit and possibilities in the manufacture of marshmallow. The ordinary method of inverting sucrose is to treat it with an acid under heat. It seems to be so simple an operation that many have tried to produce invert syrup in their own plants. But unless elaborate equipment is used, it is extremely difficult to produce a syrup of good color that is uniform both as to the degree of inversion and amount of moisture. Some have even tried to produce a partially inverted syrup containing a predetermined amount of invert but their efforts have not met with success. About the only practicable way to add a known amount of invert to a batch is to purchase a commercial product of reputation, which contains a definitely known percentage of moisture and invert and which is produced day after day with great uniformity.

### *Barometer Governs Use of Invert*

The addition of invert to marshmallow must be made judiciously, with particular regard to climate conditions at the time of manufacture, the season of the year, and whenever possible, to the locality in which the marshmallows are to be consumed. After comparing the moisture-attracting and moisture-retaining properties of the substances commonly employed to maintain constant moisture-content in finished marshmallow, one must recognize the distinct merits of standardized invert sugar.

"Glucose" is a most misleading term. It may be used to describe grape sugar, dextrose, or corn sugar, and a number of similar products or isomers. Glucose, as it is used commercially, is more correctly called corn syrup, being a product formed by the conversion of a starch which is usually derived from corn.

Corn syrup, even when highly concentrated, will not crystallize. When mixed with a high percentage of sugar it will form an uncrystallizable mixture. Thus, corn syrup has a definite effect on the texture of marshmallow, quite apart from its functions in decreasing cost. It has a tendency to increase the toughness of the marshmallow upon ageing, provided the amount of syrup used is much in excess of the amount of sugar used. However, it possesses very definite ability to retard

graining and thus increases the life of the marshmallow.

Corn syrup varies according to brand, from about 4.5 to 6.0 pH, the color ranging from water white to a light straw. It varies in moisture content from 19.5 per cent in 42 degrees Baume syrup, to 17.5 per cent in 43 degrees Baume syrup. All of these factors are sufficiently important to warrant consideration in the manufacture of marshmallow, whether in checking one's present supply or in changing from one brand to another. The color of the syrup as used is not always to be accredited to its manufacture. Faulty temperature control on the consumer's storage tank is often to blame, causing marked increases in color, and undoubtedly an unfavorable change in constitution.

The principal constituents of corn syrup are dextrin, maltose and dextrose. It would be interesting to know how a variation of these constituents would affect the rate of crystallization when mixed with sugar. Such a study would probably explain what the practical man refers to when he says that heating destroys the "life" or "strength" of corn syrup.

### *The Structural Material Is Gelatine*

In the physiology of the plant the principal structural material is a carbohydrate—cellulose. In the vertebrates the most important protein of the bones and connective tissues is collagen—the product from which edible gelatin is derived. Likewise in marshmallow, gelatin is the structural material.

Gelatin derived from different sources exhibits different characteristics and we can therefore expect that different gelatins will react differently in the batch. There are three general sources of pure food gelatin, which is named according to the raw material from which it is extracted,—bone gelatin from bones, pig skin gelatin from pig skins, and calf skin gelatin from calf skins or better hide trimmings.

Although jellying strength is the principal factor to be considered in standardizing on a gelatin for marshmallow work, it is well to be familiar with some of its other characteristics.

Bone gelatin may be made by cooking or steaming bones which have been ground and degreased. A comparatively low testing (jell strength) product having a decided yellow color results, and when dissolved it produces a very turbid solution. If, after grinding and degreasing, the bones are treated with dilute acid to dissolve the mineral constituents of the bone,

a product known as ossein remains. When ossein is cooked with water a gelatin having better jell strength, color, odor, and with much less turbidity is produced. The degree of acidity or pH is normally lower in the second case, but may be altered by treatment subsequent to drying. Bone gelatin seems to possess superior beating qualities, beating quickly and making a light marshmallow which tends to set without sagging, or stays "put" after being deposited.

Pig skin gelatin can be obtained with a very high jell strength, and having a viscosity about the same as bone gelatin. If the pH is low, its solution will be brilliant and have a light straw color. Such gelatin beats well but often exhibits a tendency to sag after being deposited.

Gelatin made from "calf stock" can be isolated by its high viscosity for a given jell strength, its high pH, typical odor, and cloudy solution. In view of the tremendous strides which have been made in the manufacture of gelatin during the past fifteen years, it may be confidently expected that before long any objections which have hitherto existed against this class of raw material will have been largely removed. As a matter of fact such steps are now being taken. Calf skin gelatin beats well and deposits well. In solution, it sets up before other types of gelatin, thus tending to mislead one concerning its actual jellying strength. The manner in which it functions is apparently due to peculiarities of the raw material itself and not to its high viscosity.

#### *Type of Gelatine Determines Detail of Manufacture*

In actual practice among confectioners throughout the country, one finds the use of all jell strength from the lowest to the very highest which it is practical to manufacture. Likewise it is not uncommon to find one manufacturer who will swear *by* a certain type or blend of gelatins where another will swear *at* the identical gelatin, notwithstanding the fact that both of them are endeavoring to make the same kind and quality of marshmallow. Low testing grades are used principally in penny goods. The medium test grades are used in all kinds of marshmallow: penny goods, sanded, cut, and cast marshmallow. The high test grades are used most extensively in cast marshmallow.

The jell strength and the type of gelatin best suited to making a given kind of marshmallow can be predetermined provided the detail of manufacture is known.

By changing the detail of manufacture, however, it is practical to use a large variety of combinations of jell strength and type of gelatin. For example, if one were using a pig skin gelatin and depositing the marshmallow at 95° F., he would, other conditions being correct secure a nicely rounded top. If a second batch were to be made under the same conditions except that bone gelatin were used, the cast marshmallow would not only have a nicely rounded top but there would be evidence of strings and tits. These strings can be avoided by raising the temperature of deposit from 95° F. to say 100° F., or by blending the bone gelatin with the pig skin gelatin.

Other characteristics to be considered in connection with the selection of a marshmallow gelatine, are the bacterial count, pH, color and odor. Most domestic pure food gelatin made today will give little if any trouble from a bacteriological standpoint if ordinary sanitary precautions are taken in the plants using it. Most of the fermentation difficulties usually experienced are due to highly sugar tolerant yeasts, which are introduced by the air or through the use of unsanitary equipment, and not by the gelatin.

The degree of acidity or pH of the gelatin is the main factor affecting the acidity of the marshmallow. As a matter of fact, if we exclude such substances as soda, cream of tartar, etc., the pH of the finished marshmallow will be only about .5 pH above the pH of the gelatin used in its manufacture. This factor is to be considered especially in the case of a cooked marshmallow where the question of inversion has to be reconciled. If the pH of the marshmallow is much below 4.5, there will be a tendency to reduce the jell strength of the gelatin. On the other hand, if the pH is above 6.0, the marshmallow will turn yellow in a very short time.

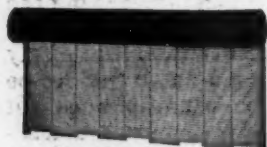
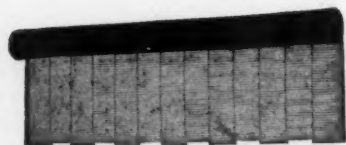
Every manufacturer strives to produce as white a marshmallow as possible. In this connection it should be borne in mind that if the gelatin has a marked color to begin with, it will of necessity be reflected in the finished marshmallow. The disadvantage of an objectionable odor or taste of the gelatin is obvious, both being difficult to mask even when an excess of flavor is used.

#### *Water Critical as to Amount Rather Than Character*

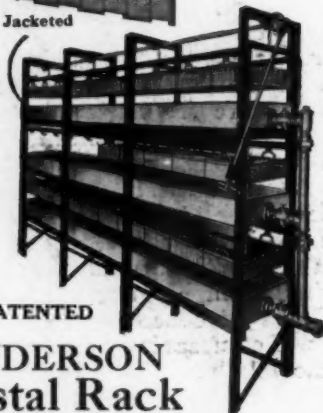
The conditions encountered in marshmallow plants from coast to coast, so far

(Continued on page 54)





Water Jacketed



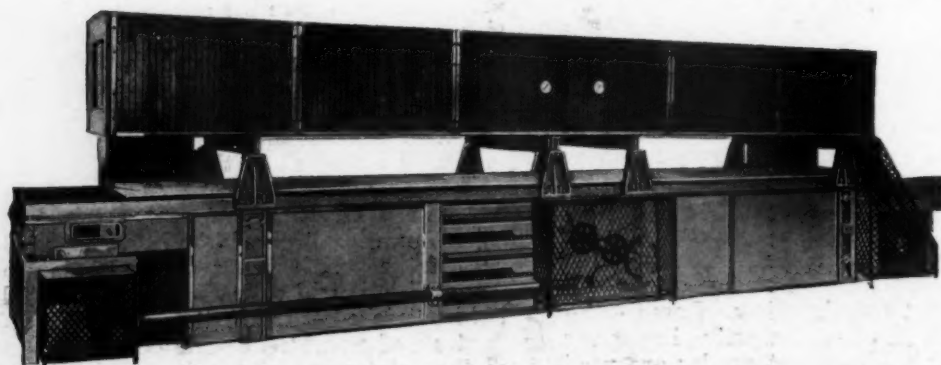
PATENTED

## HENDERSON Crystal Rack

The Henderson Crystal Rack is the solution to the Crystallizing problem.

Produces 600 pounds of high grade goods per batch. Two batches per day.

Most compact, sanitary, economical, and labor saving method of making crystallized work.



PATENTED

## GREER Chocolate Cooling Machine

For  
Bars and  
Ten Pound  
Cakes

The Greer Chocolate Cooling Machine is recognized as the best and most modern means of cooling any solid moulded chocolate. The standard machine has a capacity of 2500 pounds per hour and yet occupies a space only 5½ feet x 28 feet.

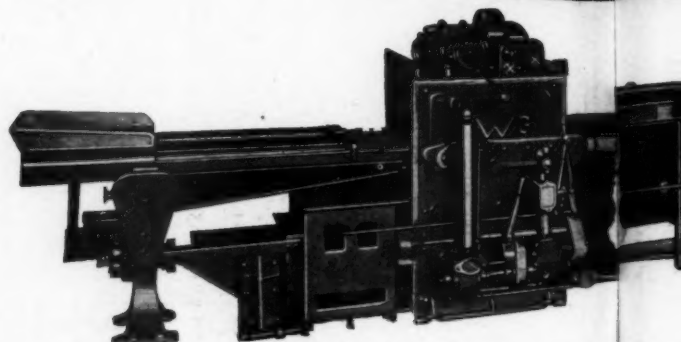
Moulds of any size can be used in this machine. Warming tunnels are supplied to warm and return empty moulds to moulding room.

## GREER Wire Belt

Greer Wire Belt is made in our own plant out of the very best wire. Standard belts in 16-in., 24-in., and 32-in. widths, fit any Coater or Enrober.

Any length of belt furnished as requested.

Wire belts are expensive. Why not buy the best?



## GREER Automatic Plaque Tooling

Where floor space is at a premium the Greer Plaque Tooling machine is the ideal means of overcoming the Gooding machine and are automatically transferred tooling machine operate continuously and the Greer Plaque Tooling machine is only 24 feet long yet is equal to a 90 foot machine.



PATENTED

## The Greer Plaque Tooling

The Greer Plaque Tooling machine is the ideal means of overcoming the Gooding machine and are automatically transferred tooling machine operate continuously and the Greer Plaque Tooling machine is only 24 feet long yet is equal to a 90 foot machine.



**GREER Quik Candy**  
The surprising Candy machine is its cooling capacity due to its efficient method of circulating the water. It uses water. are obtainable on lab.

**J. W. CO**  
Manufacturers of Machinery  
119-137 Windsor CA





## GREER Perfected Chocolate Melting Kettle

The Greer Perfected Melting Kettles are the latest, most sanitary and efficient type of Melter. The use of Greer Kettles insures a uniform coating.

Outside surface is polished. No paint to crack off. Removable bearings throughout.

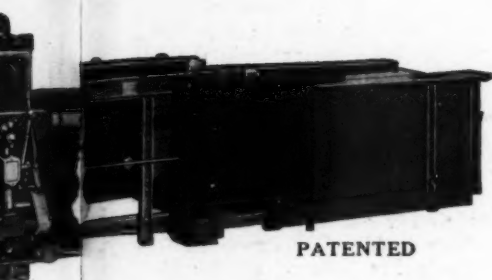
Made in 150, 300, 500, 1000 and 2000 pound sizes.



Machine Finish

Opening

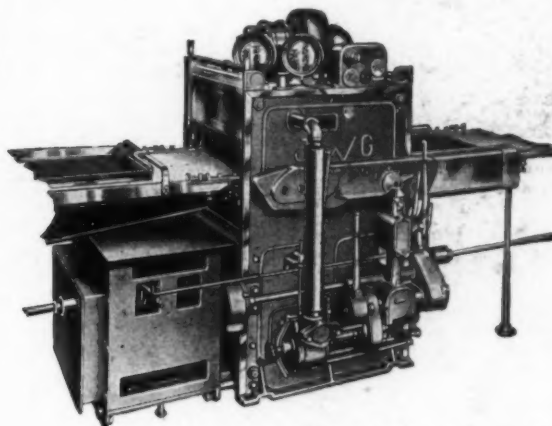
Removable Bearings



PATENTED

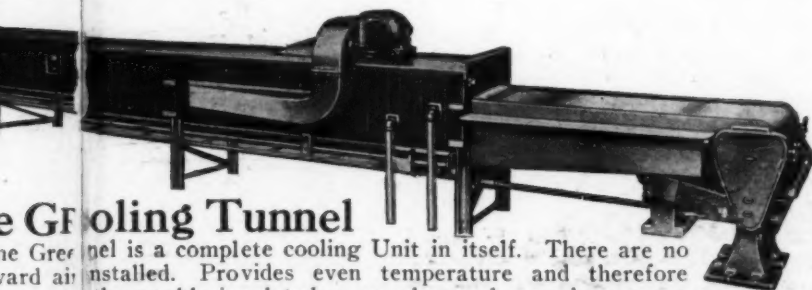
## Greer Patent Cooling Machine

In the Greer Patent Cooling Machine, Goods are fed thru Coating and then thru the Cooling Machine. The Cooling Machine is of intermittent motion. Cooling is equal 90 ft. long.



## GREER Coater

The Greer Coater produces a remarkable amount of coated goods, and yet maintains the highest of quality. Simplicity has been achieved at last in a coating machine. In operation it is practically noiseless—a noiseless type of blower and drive being used. Variable Speed Transmission—NOT STEP GEARS—provides any desired speed.

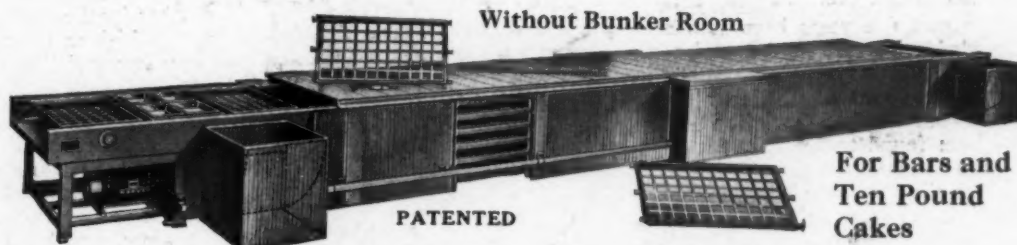


## Greer Cooling Tunnel

The Greer Cooling Tunnel is a complete cooling Unit in itself. There are no fans installed. Provides even temperature and therefore thoroughly insulated so can be used even in a warm room. Conveying belt insures much longer life for belts. Can be used with Coater or Enrober.



ER Quik Candy Slab machine. Surprising Candy Cooling Slab machine due to the unusually method of circulating and draining. It is used in the candy business. These features are valuable in the candy business.



Without Bunker Room

PATENTED

For Bars and Ten Pound Cakes

## W. C. COMPANY

Manufacturers of Machinery That Pays Dividends  
Windsor, CAMBRIDGE, MASS.

## GREER Chocolate Cooling Machine

This machine is the same as that illustrated on opposite page except for Bunker Room. With this type cold air is supplied from coils located in some other part of the plant.



An unusual desert scene. Artesian wells feed innumerable irrigation trenches in the famous date gardens of this sunken California valley (200 feet below sea level).

## Desert Gold

*—a familiar Oriental raw material is transformed into a product of unusual quality in an American environment.*

BY D. H. MITCHELL

**D**ATES have heretofore been associated with pictures of camels, mud houses or tents, and dark-skinned natives with flowing robes. Now, however, the picture must be changed to include date culture as practiced in our own country. The camel is replaced with a tractor or truck, the mud houses and tents give way to comfortable ranch homes with broad porches, and the flowing robes of native Arab are replaced with the less picturesque but more comfortable, to us at least, American-made overall.

The past five years have seen a remarkable increase in the production of dates here at home. The southeastern part of California, in the neighborhood of the Salton Sea, has been found to be well adapted to date culture from the standpoint of both climate and soil. This section, known as Coachella Valley, lies for the most part below sea level. The soil is deep and exceedingly fertile, as it was built up by erosion from the neighboring mountain ranges. It is said that if one were to stand on the shores of the Salton

Sea, which is over 200 feet below sea level, and gaze up at the top of Mt. San Jacinto, which attains an altitude of 11,000 feet, that there would be visible the greatest net dif-



Springtime among the Deglet Noors. Each of these date clusters will grow to about 40 lbs. of dates.

ference in altitude to be observed anywhere in the United States from one spot.

The United States Department of Agriculture introduced date palms into the country in 1900, and trial plantings were made in selected spots in California and Arizona. The Coachella Valley seemed to be particularly adapted to date culture and it now contains about 90% of all of the domestic plantings.

Quarantine regulations prohibit the importation of new palms for planting, so now the American industry is strictly "on its own." Great progress has been made in the development of better methods of growing and handling dates. The American date grower has attacked his problems with characteristic energy and thoroughness. Yield per palm has been increased and the average quality of the fruit has been improved. The Department of Agriculture has been of great assistance to the industry through the experiment station which it maintains in Indio, Calif.

Approximately 300 named varieties of date palms were imported from the date-growing regions of the Old World for trial, but at the present time only half a dozen are in what might be called commercial production. Of these, the Deglet Noor variety is by far the most popular and constitutes 80% or more of the entire acreage of standard varieties.

Expansion of a planting is made by means of "offshoots," sprouts from the parent palm, which are detached and set out in orchard form or nursery row. These offshoots are true to the parent palm and so avoid the uncertainty of planting seeds which rarely produce profit-making palms. Offshoots are produced during the early years of a palm's life and average eight in number for the Deglet Noor variety, and as high as twenty for some of the minor varieties.

One of the most interesting phases of date-growing is pollenating. The bees, wind and other pollinating agents are not reliable in securing a good crop, so the grower himself assists nature. Date palms are dioecious, that is, the male or pollen-bearing flowers are borne in male palms, and the female or fruiting flowers are borne on female palms. During the months of Feb-

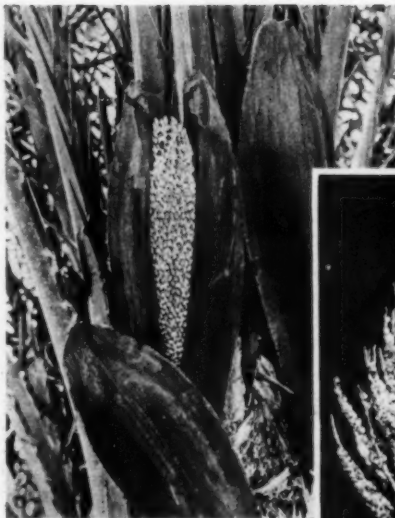
(Continued from page 46)

## THE MANUFACTURING CONFECTIONER

*Propagating is accomplished entirely by means of shoots, the latter having a market value of about \$25.00 a piece.*

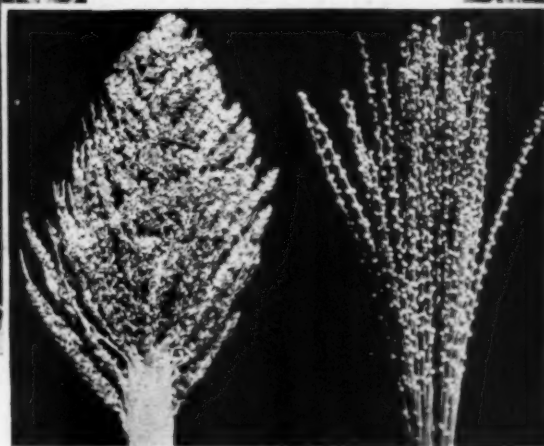


*Left—Cutting the shoots from the parent palm. Right—Setting them out.*



*Male pollen bursting its sheath.*

*Pollen from male and female palms respectively. Only the female palm bears fruit.*



*Insects being unavailable for the purpose, cross-pollination must be done by hand—a tedious and painstaking process.*



## DESERT GOLD

### Desert Gold

(Continued from page 44.)

ruary and March date growers are kept busy applying the pollen.

Two methods of applying the pollen are used. One is illustrated in the accompanying photograph. A sprig is clipped from a male bloom and tied in place in the center of the female bloom with the bell flowers turned down. The pollen floats on the air and so permeates the whole bunch and a satisfactory "set" is secured. The other method consists in collecting male pollen on a bit of cotton and tying the cotton in place, as was done with the sprig.

Hand-pollinating is not peculiar to domestic date culture but is employed also in cross-pollinating the vanilla blossom. The fig, however, is cross-pollinated by a wasp-like insect which carries pollen from the inedible male or caprifig to the edi-

ble fig of commerce.

Throughout the summer the principal duty of the grower is to irrigate his rows of graceful palms. Contrary to the popular idea, date palms require large quantities of water applied at regular intervals. Water is obtained from deep wells the tree rows and allowed to flow in furrows past the palms. The sandy soil allows the water to penetrate readily to the roots.

In August or September, most of the date growers place burlap or paper bags around each fruit bunch as a protection against rain or birds. A rain during the ripening season and is piped to the highest end of causes serious loss and bags of various kinds have been found to be a form of crop insurance that is effective in all except the most protracted rain storms.

The time of ripening depends to a large extent on weather condi-

tions, but the period from September to the middle of December is usually the time of harvest. Dates do not ripen simultaneously, so it is necessary to go over the bunches at frequent intervals and remove all that are mature. This is expensive, of course, but seems unavoidable if the fruit is to be placed on the market in the very best of condition.

The expense involved in preparing and packing dates for the market has early shown the growers the advantages of cooperative effort. The majority of the Deglet Noor variety, estimated at 85% for the present season, is now packed through a modern cooperative packing plant at Indio. This plant is open for inspection during the busy season, a guide being provided to explain the various operations.

The fruit is picked by the growers themselves and delivered at the

(Continued on page 55)



*Harvest-time in the date gardens of Southern California*



# Helpful Hints for the Pan Department

BY ERIC LEHMAN

Practical Superintendent

**P**ERHAPS the most important detail in connection with picking out a location in the factory for our pan room is to select an area where the pans may be grouped to receive the full benefit of the light from the windows. No artist ever attempted to paint his masterpiece in a gleamless dungeon, and it is equally ridiculous to expect a pan man to perform his artistry and turn out beautiful pastel colorings in a pan department inadequately daylighted.

A separate and completely enclosed room should be reserved for pan work only. Dust created by other operations, if permitted to invade the pan department, is fatal to the finest pan work. In the ideal pan department layout, the pans are placed far enough apart to permit workmen to circulate freely between them. The syrup kettles are arranged in close proximity, and near at hand also is a table with the usual complement of copper kettles for cooling, coloring and flavoring.

The room is kept free of open steam lines and protected against hot and cold blasts of air. Moisture in any form is religiously excluded from the scene of operations. Cold dry air or hot air piped to the pans is excellent; in fact, almost indispensable for some kinds of pan work, but not for Jordan almonds. If you use air in your pans, either hot or cold, at least make sure it is dry air and not moist air. The majority of pan work "troubles" can be traced to the action of moisture at some point or another.

Another important point to consider is the speed at which the pans are operated. There is no set rule governing the speeds at which pans must run, yet there are admittedly right speeds and wrong speeds. If we were to get a dozen pan men together, each would probably have a little different idea as to which speeds are most desirable for different classes of work, and of course, so long as the work comes out all right, it makes little difference whether one pan runs two or three revolutions faster or slower than an-

other. But they can be run too fast and they can be run too slow and the best average speed for your particular conditions must, in the final analysis, be determined by the man doing the pan work, which brings up a point I have repeatedly stressed in connection with other classes of specialty work. Have a "Pan Man"; not a Jack-of-all-trades.

When it comes to "finishing," the finishing pan just has to be running at the right speed in order to finish the work properly, whether polished or dull. Here, even two or three revolutions one way or the other makes a noticeable difference.

It seems generally agreed that the type of pan having steam coils around the outside is best, but be sure the pipes are all open and the steam permitted to circulate freely through them. Should the pan become hot in spots, go over these steam coils carefully to make sure they are all clear and that the check valve is working.

Don't forget also that your pan man is working on very "fussy" candies and should have his department fixed up as he wants it if he is to be enabled to turn out goods to suit you. Don't try to "pinch a penny" in the pan department or your goods will advertise the fact to your customers.

## What About Almonds?

Pick them over carefully, and clean them well. I suggest that you put them in a hot room of at least 130 degrees F. for a week or more. If your almonds are insufficiently dried, not only will your goods spot, crack, etc., but they will not eat so well as they might. Almonds should be brittle and not soft and flabby. Don't try to rush it. After you "gross up," wait until the following day before coating, for even though the almond feels dry and looks dry, it probably is not dry enough. Do not put on more than one coat of sugar a day. Run the almonds smooth, and put out in open trays until the next day; then

repeat the operation. If you are finishing your work dull, do not attempt to go ahead with the finishing if the weather is bad and you have no means of conditioning your pan room.

## Colors and Flavors

It is a wise economy to use only the finest colors you can get, whether powdered or paste. When you put the colors in solution, strain through a fine cheese cloth and keep the solutions in covered jars. Make up only what you need.

Too much otherwise good pan work is ruined by poor flavors, if, indeed, any is put in at all. Jordan almonds are a mighty poor confection if the flavors are not up to snuff.

## And How About a Little "Trouble-Shooting"?

**Spots and Pin Holes:** Almonds not dried out sufficiently. Pan running too fast. Work rushed or too much syrup put on at one time. Moisture present in the room.

**Fading:** All of the above reasons, or poor colors. Syrup not right when almonds were being finished.

**Splits, Cracks and Bad Ends:** Careless workmanship. Letting pan run when syrup has dried, causing almonds to slide in pan. Pan running too fast. Syrup not cooked right. Syrup too hot or too cold. Work rushed.

**Bad Finish:** All of the above reasons.

## Fire Destroys Minneapolis Plant of Pendergast Company

Fire, which broke out early Sunday morning, Nov. 4th, wrought havoc with the Pendergast Company's Minneapolis plant. An explosion of the gas tank connected with an automatic water heater is believed to have started the blaze.

The alarm was turned in at 2:25 a. m. Sunday and before the flames could be brought under control practically the entire stock and equipment of the company were completely destroyed. Fortunately, however, the records of the company were well protected and after the fire were found intact.

No definite announcement has been made as yet by the company's officials as to whether or not the Minneapolis plant will be rebuilt. Operations for the present will be carried on entirely at their Boston plant which has been geared up to a twenty-four hour day production.

The stock destroyed was entirely covered by insurance while the machinery was only partially covered.

# A Factory Super Learns the Ins and Outs

of

## Buffer Salts

—and finds they have  
a lot to do with the  
way his batches behave

By NORMAN W. KEMPS  
Chemical Engineer

Another story of genuine scientific interest  
to the practical men of the industry

**B**ILL, said the plant superintendent to the chemist as the latter looked over his shoulder to find him engrossed in a June copy of the MANUFACTURING CONFECTIONER, "didn't I understand you to say not so long ago that this pH stuff was the cause of a sugar being strong or weak?"

"I may have said something that sounded remotely like that. Why?"

"Well, this bird 'Randolph,' who gets off these sugar surveys, he don't think so much of your dope. He says that all this inversion business may be due to bumper salts—"

"Bumper salts—bumper salts—what on earth are they?"

"See, I knew you probably had never heard of them. Ask Robert—"

"Wait a minute, Ed. You don't mean 'buffer' salts, do you?" queried the chemist, a great light suddenly dawning.

"Well, maybe that's it—fact is, you've been telling me so much about these little electrical gadgets that go running around bumping into one another, that I wouldn't be surprised if I did get it a little bit twisted. Anyway—look!" said Ed, and he pointed a calloused finger to the open page of the MANUFACTURING CONFECTIONER. Bill read:

"Perhaps undue emphasis is being placed upon the 'pH,' or hydrogen-ion concentration. Are the superior working qualities of a cane syrup

such as we have described due mainly to the fact that it has not been boiled and reboiled in order to crystallize it? Or do some refining processes tend to remove certain undetermined buffer salts which might materially reduce inversion by retarding the activity of the pH?"

"Funny, isn't it?" said Ed with a malicious twinkle as the chemist looked up from the page, "isn't it funny that two of us should have the same idea about this little bedtime story of yours?"

"Oh, go drown yourself," was Bill's comment. "Are you just trying to amuse yourself or are you looking for information?"

"Well,—both, maybe. What is a buffer salt, anyway?"

"All right. Stand your ground. . . . A buffer substance is an ionized compound which, because it gives off one or more ions capable of combining with either the hydrogen ions or the hydroxyl ions of water to form slightly ionized acids or bases as the case may be, tends to maintain a definite pH in the system."

"Your Greek is improving. Now suppose you let me have it in English."

"Do you remember the little talk we had on ionization, several months ago? We agreed that every substance capable of breaking up in solution into tiny particles, or ions, bearing positive and negative electrical charges, has its own 'ionization constant' which governs the ex-

tent to which it will ionize. The extent of this ionization must remain constant for any given substance no matter how many other substances are introduced into the solution. Is that clear?"

The superintendent gravely nodded assent and Bill proceeded to lounge comfortably alongside his desk.

"Suppose," said he, "we take an imaginary compound which for the sake of illustration we will call 'A B.' Such a compound will split up in solution into positive 'A' ions and negative 'B' ions. But all of the compound 'A B' does not split up, the process only being carried far enough to satisfy its ionization constant. Consequently, in addition to these positive and negative ions unto which a part of the compound has broken up, we also have a large amount of the compound in its original un-ionized, or undissociated state."

Bill reached for a pencil and marked down this formula on a piece of paper:



"Now the ionization constant of this compound is the product of the actual concentration of A ions and B ions, divided by the concentration of the un-ionized portion of A B." Bill wrote out:

$$\text{Constant } K = \frac{\text{Conc. } A^+ \times \text{Conc. } B^-}{\text{Conc. } A B}$$

"But," Bill continued, "since the un-ionized portion A B is so large compared with the dissociated portion  $A^+ + B^-$ , we may neglect this divider, which is to all intents and purposes a constant in itself. The ionization constant is therefore just the product of the concentration of the A and B ions."

$$\text{Conc. } A^+ \times \text{Conc. } B^- = \text{Constant } (K)$$

"That," said Bill, pointing to the formula he had just written, "is the fundamental formula governing ionization. The product of the concentrations of A and B ions remains constant no matter how we try to alter it. Should we add to the solution an excess of either A or B ion, the concentration of the other will drop due to the building up of undissociated or molecular A B."

"Suppose that instead of using an imaginary compound, we take for our example some substance such as acetic acid, with which you

## THE MANUFACTURING CONFECTIONER

have had practical experience. Dissolved in water, acetic acid commences to ionize into positive hydrogen ( $H^+$ ) ions and negative acetate ( $C_2H_3O_2^-$ ) ions. The ions in their turn combine to form molecular acetic acid and the two reactions go on until equilibrium is reached. A portion of the acid now exists as ions while another portion exists in the un-ionized or molecular state.

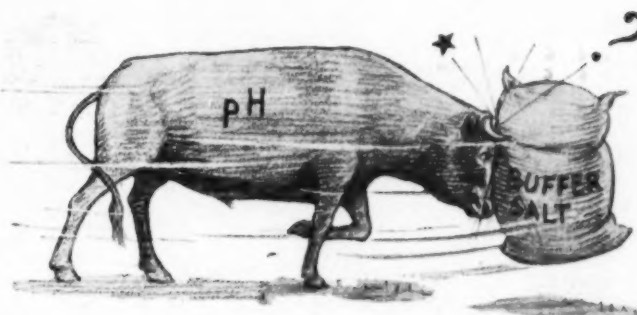
"When equilibrium is reached, the ionization constant is automatically satisfied and *thus holds true whether the ions in solution have resulted from the break-down of the acetic acid itself or from other sources.*"

"Brakes, please!" the superintendent interrupted. "I may be stupid, but if you have only acetic acid to begin with, what other sources have you got to get ions from?"

"Water, for one. There may be many different sources in the average solution, Ed. Take sodium acetate, which is a typical buffer salt. In water solution, sodium acetate ionizes almost completely into positive sodium ions ( $Na^+$ ) and negative acetate ions ( $C_2H_3O_2^-$ ). The water itself conducts its own ionization, but of course, on a very small scale, a portion of it breaking up into positive hydrogen ions ( $H^+$ ) and negative hydroxyl ions ( $OH^-$ ). Consequently, *in the solution we have the ions needed to form acetic acid ( $H^+ + C_2H_3O_2^-$ ), even though no acetic acid has been added.*"

"Say, that's great!" was Ed's acknowledgment. "Wouldn't it be great if we could make candy that way?"

"To get back on the road again, acetic acid in normal solution ionizes only to a very slight extent.



Buffer salts are what hold in check that wild bull of the candy batch—"pH."

When equilibrium is reached, less than 1.5% of the total quantity of acid present exists as ions, the remaining 98.5% being present in the original state as undissociated molecules. Because of the limited extent to which it ionizes, acetic acid is called a 'weak' acid in counter-distinction to a 'strong' acid like hydrochloric acid, which ionizes almost completely.

"I said a moment ago that whenever positive hydrogen ions and negative acetate ions occur in the same solution, regardless of their source, combination takes place to form acetic acid until a point is reached where the ionization constants have been satisfied.

"When this acid-forming process occurs in our solution of sodium acetate, a small amount of hydrogen ion is removed from the water, thus upsetting its equilibrium. More of the water must now break up into ions to supply the deficiency and maintain the water's own ionization constant. The action continues to progress until *both* ionization constants are fully satisfied. When equilibrium is finally reached there will be found to be an excess of hydroxyl ion over hydrogen ion and

the solution is said to be alkaline."

"Stop!" demanded the superintendent with an appropriate gesture, "there's no use in your rambling on until I can get it clear in my head where all this excess of hydrovestibule comes from. Looks like a case of 'now you see it and now you don't'."

"Can't you see, Ed, that every molecule of water which ionizes, breaks up into one hydrogen ion and one hydroxyl ion. The hydrogen ion hooks up with the acetate ion of the sodium acetate to form a brand new compound, acetic acid,—while the hydroxyl ion is left with nothing better to do than remain an old maid. Have I made that plain?"

"Okeh."

"All right—now for the meaning of 'buffer action': As a result of the action I have just described, any attempt to alter or neutralize the alkalinity of a sodium acetate solution by the addition of free acid, meets with a great deal of resistance. The large excess of free acetate ions promptly gobbles up the added hydrogen ions to form molecular acetic acid, and the pH, or hydrogen-ion concentration, remains nearly the same as it was before the acid was

### A Battery of Typical Buffer Salts--





## BUFFER SALTS

added. This ability of certain substances such as sodium acetate to resist changes in alkalinity when in solution, is known as 'buffer action,' and the salts or other substances possessing this property are referred to as 'buffer substances.'

"Buffer action denotes the tendency of these substances to maintain a definite hydrogen-ion concentration, or pH, in the solution even in face of the addition of relatively large amounts of free hydrogen ion. It is analogous to the action of an expansion tank in the ordinary household hot water heating system. The function of the expansion tank is to prevent an increase in pressure as the system heats up. As the water heats up, it expands and were the expansion tank not present to take up this added volume, the pipes would burst. Instead, the expansion tank gradually takes in the extra volume of water and practically no increase in pressure occurs within the system."

The chemist paused for a moment as the superintendent sat taking in this practical, if unusual, explanation. Finally Ed exclaimed, "what's the 'expansion tank' in the case of the sodium acetate solution—acetic acid?"

"Right. Its formation takes up the increases in pressure as rapidly as they are developed; and thus serves as a 'buffer' against changes in the pressure or concentration of the hydrogen ion. If you will always remember that pH is a measure of pressure rather than volume, you will not have much difficulty in getting a proper picture of buffer action."

"The same buffer action takes place in the solution of any salt composed of a weak base and a strong acid. Ordinary alum, which contains the salt of the weak base, aluminum hydroxide, and the strong acid, sulphuric acid, has a distinct buffer action. On the whole, though,

buffer action is strongest in the salts of very weak organic acids or bases. Such salts are believed to be present in minute, but nevertheless effective quantities, in practically all refined sugars—"

"I knew we'd get back to sugar *eventually*," said Ed, but the chemist, ignoring the interruption, continued:

"These salts exert their influence during the boiling of the sugar, by tending to prevent the increase in pH which would ordinarily result from the caramelization or breakdown of the sugar by heat. Since hydrogen-ion is the catalyst which most actively *inverts* sugar, *any agent which prevents an increase in the concentration of hydrogen-ion, or pH, tends to reduce the inverting action.*

"Sugars of different origins, and refined by different processes, will contain varying amounts of these buffer substances, and that probably explains why certain of the sugars in the M. C. Survey showed greater increase in the 'pH of the Candy Test' than did some of the others."

"What's that one about being 99.44/100% pure?—no, that's a soap; I thought the sugar refiner's job was to make that stuff 100% pure."

"They come about as near to it as is humanly possible, Bill. As a matter of fact, it is your friend Randolph's contention that they may be making the sugar a trifle *too* pure and that as a result of this excessive refining, some of these valuable buffer substances are removed which might better be left in to improve the strength of the sugar."

"Do you really think those insignificant amounts of impurity are responsible for all of that?" The superintendent's face for the first time took on an incredulous expression.

"They're not insignificant, Ed," was the chemist's rejoinder, "they

may be tiny, but nobody can call them insignificant. It is hardly conceivable that the results of the Survey candy tests can be explained in any other way."

"Somehow, it don't seem hardly possible," Ed mused slowly. "I suppose next you'll be telling me that we've been putting plain and fancy buffer salts in our batches all our lives without knowing it!"

"That's no joke, either. Haven't you ever used cream of tartar?" asked Bill maliciously. "Well, your old friend cream of tartar is useful to you principally because it exerts a powerful buffer action. What makes it an ideal doctor? The fact that it tends to control the pH at just the right point for your work in hard candy and fondant. It forestalls the increase in hydrogen ion concentration which would normally result from the breaking down of a portion of the sugar. It keeps the percentage of invert within bounds—"

"Well, I'll be—"

"You bet, Ed, you've used buffer salts to hold in check the catalytic action of that wild, rampaging hydrogen-ion, not once, but many thousands of times."

"Do you know the trouble with you, Bill?"

"What?"

"You finish every explanation with a question mark."

"What haven't I explained now?"

"Catalytic action."

"Ye gods!" Bill threw his hands up in hopeless despair as he stalked out of Ed's office muttering something about the insatiable thirst of a sponge.

*(If you like this method of presenting facts pertaining to the chemistry of candy-making, drop us a line and tell us so. This is your paper and any comments or suggestions which you may care to make will be appreciated.—The Editor.)*





## ASK ME

1. What new confectionery flavor seems destined to provide fresh impetus to reforestation programs in Northeastern United States?
2. Which basic cocoas are being encouraged for domestic consumption on the ground that they are the only cocoas in the world produced by an all-American company?
3. What confectionery raw material is an important source of lysin?
4. What principle of modern candy factory operation has recently been made available for private homes?
5. How has the disadvantage of lessened bulk and consequent wastage been overcome in the use of ethyl vanillin in chocolate coatings?
6. What is meant by "enflourage" in connection with confectionery flavors?
7. What American-grown product is referred to as "desert gold"?
8. How do you explain the apparent paradox that a pound of the new genuine maple flavor having a flavoring strength equal to at least 60 pounds of maple sugar, can be produced from that same maple sugar at less than 30 times the price of maple sugar at point of origin?
9. What popular confectionery raw material grows underground?
10. In adapting formulas for one locality to use in another locality, what important factor is most frequently overlooked?

## Answers to October Questions

## Answers to October Questions

1. What is the most frequent cause of gas formation in a fondant?

Ans.: B. Torulae, and similar yeasts, introduced from the air, by manual contact, or from other sources.

2. How does the enzyme invertase operate to invert sugar?

Ans.: By a process known as "catalysis," whereby the breakdown or decomposition of the sugar is accomplished without the enzyme, or catalyst, undergoing any visual change.

3. How does the manufacture of Corn Syrup resemble the process of digestion?

Ans.: Corn starch is hydrolized or "digested" through the action of heat and dilute hydrochloric acid; a similar process takes place in the human body, the starches being digested by the gastric juice (largely hydrochloric acid) in the stomach.

4. What is "guaiacol" and of what interest is this material to confectionery manufacturers?

Ans.: Guaiacol is a coal tar derivative. It is an important inter-

mediate in the manufacture of synthetic vanillins.

5. Why is the hydrolysis of sugar termed "inversion"?

Ans.: Because the breakdown products of the hydrolysis give an "inverted" or opposite polarization to that of sugar.

6. What are the recognized scientific proportions of protein, carbohydrate and fat in the normal healthy diet?

Ans.: Carbohydrates (candies, sugars, starches, molasses, honey, etc.) 60%; fats 30%; proteins 10%.

7. What is a fixative and what is its application in confectionery flavors.

Ans.: A resinous or heavy bodied substance which by raising the boiling point of the product in which it is used increases the lasting or staying properties of the more volatile odors. The use of fixatives in hard candy and in other types of candy where the flavors are likely to be subjected to heat or come in contact with hot batches, seems destined to increase when their properties become more fully understood and appreciated.

8. Why do most California shelled almonds have lighter-colored skins than the European varieties?

Ans.: The commercial California almonds are mostly of the soft-shelled variety. In the soft-shell type the shell opens on the tree during the ripening process and exposes the kernel to the bleaching effect of the sun's rays.

9. How is powdered pectin made to dissolve quickly in the batch without lumping?

Ans.: By a patented process employing small amounts of baking soda and (citric) acid to produce effervescence as the powder is dissolved.

10. How many B.T.U.'s of refrigeration are needed to bring chocolate from the temperature at which it strikes the goods in a coating machine to the proper setting point ready to be packed?

Ans.:

## Setting Moulding Chocolate

The amount of refrigeration will vary slightly according to the composition of the chocolate and also according to the range through which it is intended to chill it.

A B.T.U. is the amount of heat required to raise 1 pound of water 1 degree F.

The specific heat of the fat portion of the chocolate is approximately .5; that of the non-fatty portion averages .66, as compared with water as unity. The latent heat of cocoa butter is 60.

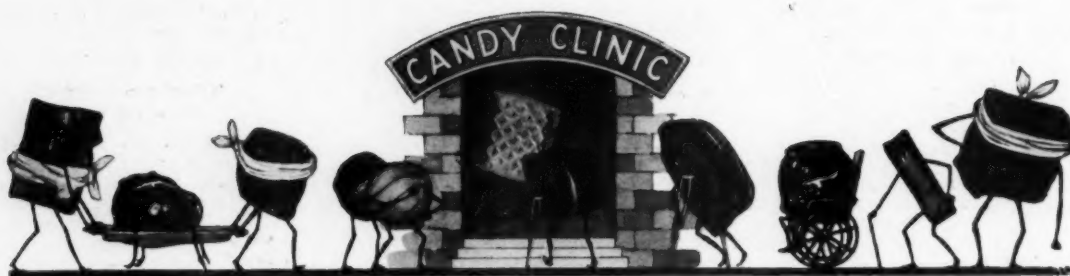
A drop in temperature of 36 degrees F is assumed; i.e., from 91 degrees F. to 55 degrees F.

## Calculation Per Pound of Chocolate

	B.T.U.
Latent heat given up by 35% cocoa butter ( $60 \times \frac{35}{100}$ )	21.0
Specific heat for drop of 36 deg. F. on 35% cocoa butter ( $36 \times \frac{35}{100} \times .5$ )	6.3
Specific heat for drop 36 deg. F. on 65% of non-fatty ingredients ( $36 \times \frac{65}{100} \times .66$ )	15.0
	42.9

There must, of course, be a certain allowance for leakage along the cooling tunnel and for keeping the various parts of the apparatus and moulds cool.

Probably 55 B.T.U.'s would be a fair total, although it is manifestly impossible to be very close as the efficiency of the apparatus itself will vary.



The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Each month he picks up at random a number of samples of representative candies. This month it is pan work; next month it will be holiday assorted chocolates. Each sample represents a bona-fide purchase in the retail market, so that any one of these samples may be yours.

This series of frank criticisms on well-known, branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of the M. C.

## Pan Work (Chocolate Coated and Sugar Coated)

Sample BL<sup>1</sup>—No. 11  
Choc. Panned Spanish Peanuts,  
1½ Oz., 5c

(Purchased in a drug store.)  
**Appearance of package:** Good for this class of goods. Blue and silver foil folding box, 3½"x1"x1".  
**Coating:** Milk chocolate.  
**Color:** Good.  
**Taste:** Good.  
**Finish:** Polished.  
**Workmanship:** Good.  
**Center:** Spanish peanut well roasted.  
**Remarks:** This box of panned peanuts is very good for the price and is enjoying an extensive sale.

Sample BL<sup>2</sup>—No. 11  
Milk Choc. Panned Raisins, 1½ Oz., 5c

(Purchased at newsstand.)  
**Appearance of package:** Good for this class of goods. Blue and silver foil folding box, 1¼"x¾"x¾".  
**Coating:** Milk chocolate.  
**Color:** Good.  
**Taste:** Good.  
**Finish:** Polished.  
**Workmanship:** Not very good. Centers barely coated, showing cracks, spots and centers partially exposed. Many pieces were stuck together.  
**Centers:** Small seedless raisins of mediocre quality.  
**Remarks:** While too much must not be expected for the price at which these goods are sold, if a little more coating were used, these goods could be improved 100%.

Sample BN—No. 11  
Sugar-Coated Jordan Almonds,  
Bulk, 59c Lb.

(Purchased in Chicago drug store.)  
**Appearance:** Good.  
**Colors:** Good.  
**Assortment:** Good.  
**Finish:** Dull.  
**Coating:** About 4 to 1 used. Panning well done.  
**Almonds:** 3 or 4 Crown Jordan, well dried out.  
**Spots:** None.  
**Pin holes:** None.  
**Flavors:** Very weak. In the white no flavor could be tasted.

Sample HY—No. 11  
Assorted Choc. Dragees, 2¾ Oz., 25c

(Purchased in a high-class chain store in New York City.)  
**Appearance of package:** Very attractive cream-colored folding box 4"x2½"x¾". Gold and white printing. Cellophane wrap; two small gold seals.  
(Contents in glassine bag.)  
**Gloss:** Excellent.  
**Coating:** Sweet vanilla chocolate.  
**Color of Chocolate:** Very good.  
**Taste:** Very good.  
**Workmanship:** Excellent.  
**Pin holes or spots:** None.  
**Centers:** Almond: Good.  
Ginger: Good.  
Orange Peel: Good.  
Raisin: Sandy and hard.  
Walnut pieces: Strong taste.  
Filberts: Good.  
Pecans: Good.

**Coating:** About 35%.

**Remarks:** Apart from a few 5c packages, this type of candy has slowly disappeared from the market. Putting this class of goods up in a small package (such as was examined) is a very good idea, as a small amount of this candy goes a long way. Owing to the labor and amount of chocolate coating used, this is an expensive confection for the everyday buyer.

THE CANDY CLINIC  
1010 UNIVERSITY STREET  
NEW YORK CITY

R

*Learn to control moisture  
—in the center, in the syrup  
and in the air,—and you have  
banished the jinx of the pan  
room.*

*M.C.*  
SUPERINTENDENT

## THE MANUFACTURING CONFECTIONER

### Sample WH—No. 11

#### Sugar-Coated Jordan Almonds, 1/2 Lb. Package, 75c

(Purchased in a chain drug store in New York City.)

**Appearance of package:** Novel, new and attractive. Extension box 7 1/2" x 3 1/2" x 1 1/4". Window front 3 1/2" x 3". White box, purple trim and name in purple. Cellophane wrap.

**Finish:** Dull.

**Colors:** Green: Entirely too deep.

Orange: Entirely too deep.

Balance: Good.

**Flavors:** Orange: Good.

Lemon: Very faint.

Vanilla: Good.

Rose: Good.

Pistachio: Good.

Violet: Good.

**Pin holes:** None.

**Spots:** None.

**Coating:** About 1 1/4 lb. sugar to 1 lb. of almonds.

**Almonds:** About a 3-Crown Jordan; well treated and good eating.

**Assortment:** Very good if green and orange had less color.

**Workmanship:** Very good.

**Remarks:** This box of Jordan Almonds is exceptionally good and should enjoy a good sale. Suggest less sugar be used. If these almonds were made one to one and the two colors made lighter, they could not be beaten at any price.

### Sample LG—No. 11

#### Sugar-Coated Jordan Almonds, Bulk, 29c Lb.

(Purchased in Chicago Loop drug store.)

**Appearance:** Very poor.

**Colors:** Entirely too highly colored.

**Finish:** Dull.

**Coating:** About 6 to 1 pouring, but well done.

**Almonds:** 2 or 3 Crown Jordan.

**Spots:** Every piece had plenty of spots.

**Pin holes:** Yellow and Green had a large number.

**Flavors:** Very poor. Hardly any flavor discernable.

**Remarks:** This sample of Jordan Almonds is without exception the poorest specimen I have ever examined and is inexcusable even at 29c lb. I have never before seen such abominable coloring.

### Sample WL—No. 11

#### Sugar-Coated Jordan Almonds, \$1.50 Lb. Bulk

(Purchased in a high class retail store in New York City.)

**Appearance of Almonds:** Very good.

**Finish:** Polished.

**Colors:** All very good.

**Flavors:** Orange: good.

Pistachio: Faint.

Vanilla: Good.

Rose: Good.

Coffee: Faint.

Lemon: Good.

**Pin holes:** None.

**Spots:** None.

**Coating:** About 1 to 1.

**Almonds:** 3 or 4 Crown Jordan.

**Assortment:** Good.

**Workmanship:** Very good.

**Remarks:** These are among the finest I have examined. Unfortunately, there are not many of this quality on the market today.

### Sample WL—No. 11

#### Sugar-Coated Jordan Almonds, \$1.00 Lb. Bulk

(Purchased in high grade drug store, New York City.)

**Appearance of Almonds:** Good.

**Finish:** Dull.

**Colors:** Violet too deep. Yellow too deep. Remainder were good.

**Flavors:** Orange: Faint.

Rose: Good.

Violet: Good.

Lemon: Faint.

Vanilla: Good.

Pistachio: Good.

**Pin holes:** None.

**Spots:** None.

**Coating:** About 1 1/2 to 1.

**Almonds:** About a 3 Crown Jordan.

**Workmanship:** Very good.

**Remarks:** These are very good Jordan Almonds at the price. More care should be taken when coloring and flavoring.

### Sample HD—No. 11

#### Sugar-Coated Jordan Almonds, \$1.00 Lb. Bulk

(Purchased in New York City.)

**Appearance of Almond:** Fair.

**Colors:** All entirely too deep.

**Flavors:** Vanilla: Good.

Lemon: Faint.

Orange: Hardly any.

Rose: Faint.

Violet: Faint.

**Pin holes:** Few.

**Spots:** None.

**Coating:** About 1 1/2 to 1.

**Almonds:** About a 3 Crown Jordan.

**Workmanship:** Good.

**Remarks:** These almonds are not up to standard. Flavors were entirely too faint, and the almonds un-uniform in size, about 25% being

very small. Using deep colors makes the product look cheap.

### Sample ML—No. 11

#### Peppermint Cordials, \$1.50 Lb. Bulk

(Purchased in a high class retail store in New York City.)

**Appearance:** Good.

**Colors:** White and green. Good green color.

**Finish:** Dull.

**Flavor:** Not very strong.

**Pin holes:** None.

**Spots:** A few on the green pieces.

**Workmanship:** Good.

**Coating:** Entirely too much.

**Center:** Mostly all solid, grained; hardly any cordial.

**Remarks:** This class of candy is not good unless there is a fair amount of cordial and a thin jacket.

### Sample ML—No. 11

#### Sugar-Coated Jordan Almonds, \$1.00 Lb.

(Purchased in a high class retail store in New York City.)

**Appearance of Almonds:** Very good.

**Finish:** Dull.

**Colors:** Very good.

**Flavors:** Lemon: Very faint.

Rose: Good.

Violet: Good.

Pistachio: Good.

Coffee: No taste at all.

Orange: Faint.

**Pin holes:** About 20%, mostly on ends.

**Spots:** None.

**Coating:** About 1 to 1.

**Almonds:** 3 or 4 Crown Jordan Almond; well-treated, crisp and of good flavor.

**Workmanship:** Finish and size excellent.

**Remarks:** Flavors in Jordan Almonds must be watched very carefully and only the finest qualities used. "Pin holes" on the ends are usually caused by allowing the almonds to "knock" in the pan. Keep the almonds wet while in the pan, removing them from the pan as soon as the syrup has dried on them.

## The Clinic Superintendent Concludes His Report

I VISITED store after store in which no Jordan Almonds were sold at all. These stores claim they have no sale for this class of merchandise.

It is not difficult to see why the candy-buying public has stopped buying Jordan Almonds. The chain drug stores and some chain grocery stores have been selling "Jordan Almonds" for 29c, 34c and 44c per pound. It is not possible to retail the better grades of pan work at these prices. The public has been misled and has in many instances stopped buying the article altogether. Some of the samples which I had occasion to examine were poor,

almost beyond belief. How these almonds can be sold to a customer the second time is beyond my limited comprehension. Colors, flavors, and even the workmanship are often of the crudest kind and it is not to be wondered at that the candy buying public that harks back to the genuine article of five or six years ago, should have an entirely different idea of what a Jordan Almond should be like. On the other hand, credit where credit is due. A few high class candy makers still treat their pans with deference and respect and continue to turn out Jordan Almonds that are a credit to the industry.



## The Raw Materials of the Marshmallow Batch

(Continued from page 41)

as water is concerned, indicate that the important consideration is the quantity rather than the quality of the water used. The waters in actual use in different sections will be found to vary all the way from distilled water to alkaline water (the latter treated with alum for clarification) and hard well waters.

If the water is potable and does not contain an excessive amount of iron it should work satisfactorily. The ordinary minerals in water consist largely of sulphates, chlorides and carbonates of sodium, potassium, calcium, magnesium, iron, aluminum and silica. With the substitution of phosphates for carbonates, the minerals in water and the ash of gelatin are quite similar. By changing brands of gelatin it is possible to get a variation of two per cent in ash which would increase the mineral content of a batch more than ten times the mineral content of a "poor" water.

It is a difficult matter to establish organoleptic standards in the manufacture of any commodity. An attempt will be made

in this series, however, to design a marshmallow and to carry it through the changes which take place after it leaves the beater. After pointing out how these changes are accountable for success or failure, a suggestion will be made, which, it is reasonable to believe, will greatly reduce the possibility of failure; cut down the floor space and the amount of equipment now required; shorten the time from beater to package, and, in addition, produce a marshmallow of greater uniformity than is generally available at the present time.

[EDITOR'S NOTE.—We know our readers have enjoyed this article by Mr. Johnson, which is one of the most sensible discussions on marshmallow which we have ever read. If you are interested in making better marshmallow, and are not already indexed as a regular subscriber to our magazine, or if your company subscription does not reach you regularly, we suggest that you place your personal subscription now so as to be sure not to miss the issues in which the remaining articles of Mr. Johnson's series appear.]

## Chats on Chocolate

(Continued from page 38)

allowing the British Gold Coast cacao growers to dominate the market, it is positively laughable that the better chocolate makers of the United States will not pay a cent per pound more than for Trinidads to get a superior cacao, to help their own products first and their own countrymen last. It is, of course, far easier to sit down and grumble at the stranglehold of the British cacao growers than to attempt to slacken the grip!

Having just returned from Costa Rica, I can say without hesitation that the fermented cacao from that country and neighboring Panama is the cleanest and best fermented on the market today; that the loss or wastage during transformation into chocolate is 2% to 3% less than with any other cacao of its class (owing to its cleanliness, its dryness and

the large size of its beans); and that it is the most free from astringency and acidity because of its nearly perfect fermentation. The statement made to me by more than one highly reputable manufacturer that Costa Rican cacao gives consistently 2% to 3% more cocoa butter than any other cacao tried under the same pressure is, I believe, correct, but not having verified this in bulk practice myself I can only express my belief in its truth based on the good word of the manufacturers and on small experiments made in the laboratory.

Costa Rican cacao even twenty years ago was a pretty poor thing, and it certainly got a deservedly bad name all over the world. But it is like heaping coals of fire on the Main Street of Newcastle in full

conflagration, to tell candy and chocolate manufacturers of the United States that times have changed, and that unless less Accra cacao is used, chocolate will remain the poor stuff that it mostly is, compared to the King of Sweetmeats before the rise of that Prince of Darkness, the tyrannical Despot of Darkest Africa.

(EDITOR'S NOTE: Do you agree with Mr. Whymper as to what is responsible for the present conditions in the Chocolate Industry? What are your views on the subject? Mr. Whymper's series, "Chats on Chocolate," will eventually cover all phases of cacao production and chocolate manufacture. We shall be glad to have your comments on these subjects as the articles appear.)



**Latest News Re Lucky Strike Fight**

Nov. 13, 1928.

Mr. E. R. Allured,  
Manufacturing Confectioner Pub. Co.,  
Chicago.

Dear Mr. Allured:

We recently sent you over the signature of Mr. Geo. H. Williamson, Chairman of our Advertising Committee, a letter to which was attached copies of the "Lucky Strike" cigarette advertisements of the American Tobacco Co., and a Resolution relative thereto, which was adopted by our Executive Committee at a meeting on Oct. 22nd and 23rd.

When these advertisements first appeared, I sent the following telegram to that Company:

"Your Lucky Strike advertisements referring to sweets have created universal resentment throughout the entire Candy Industry as an unfair attack on the Industry that through its jobbers and retailers sells many hundreds of thousands of dollars worth of your products. The continuation of your advertisements along these lines will surely result in reprisals which will be injurious to both industries. We respectfully request an immediate discontinuance of these advertisements. Please wire your answer."

To this telegram I received a brief reply stating substantially that the Company's advertising program had been very

carefully considered before it was adopted and that the Company saw no reason to make any change in its copy, even though it might be objectionable to the Candy Industry.

We have placed the facts as we see them squarely before the officials of the American Tobacco Co. We have tried to make them realize that not only is such advertising unethical, unbusinesslike, unsportsmanlike and unfair to the Candy Industry and other industries making products which are customarily classified as "sweets" but that it is very sure to react unfavorably on the American Tobacco Co. and decrease the sale of cigarettes and produce exactly the opposite effect to which it is intended to produce.

We believe that we have been making some headway for the American Tobacco Co. that this should be done.

I have called a meeting of some of our prominent New York manufacturers which will also be attended by Mr. George H. Williamson, Mr. C. S. Clark, Director; Mr. C. J. Nadherny, advertising manager, and Mr. Allan P. Ames, of Ames & Norr, Inc., who has charge of the publicity work incidental to our Advertising Campaign.

At this meeting we will decide as to what further action we are going to take relative to these advertisements. We will no doubt have another interview with the officials of the American Tobacco Co. and tell them what we propose to do. We are hopeful that this will cause them to change their plan, but if they do not, then whatever plan we will have adopted at that meeting will be carried through to a finish, of which you will be duly advised.

Sincerely yours,  
WALTER C. HUGHES,  
Secretary.

**1929 Convention of N. C. A. at West Baden Springs, Ind., Week of June 3**

At the recent meeting of the Executive Committee of the National Confectioners Association, held at West Baden Springs, Ind., it was decided to hold the next annual meeting of the N. C. A. at that same place.

Unofficially it is understood that it is the desire of the association to hold the regular exposition of supplies and equipment at the same time and place. This is somewhat off from the beaten path. However, this famous retreat no doubt has enough advantages to more than offset the inconvenience of getting there. Further details regarding the convention and exposition plans will be forthcoming at an early date.

**Desert Gold***(Continued from page 46)*

packing plant in wooden boxes holding twenty pounds. These are weighed and placed in vacuum fumigation tanks where they are allowed to remain for an hour and a quarter in carbon bisulfide gas which is introduced when the air has been exhausted. This system is efficient in exterminating insect life and is being used successfully for nuts, other fruits and tobacco, as the odor of the fumigant does not linger when the tank is emptied.

From the fumigators the fruit moves along to the cleaning devices and grading belts. Grading is done by hand since the separations are made on a basis of quality rather than size or weight. Records are kept of the number of pounds of

each grade that a grower brings in and his returns are proportionate to the percentage of "A" grade fruit that he produces. Efforts are constantly being made to produce better fruit, and results are most encouraging.

Fruit that is slightly immature is separated from the bulk of the fruit, placed on wire-bottomed trays, and kept in warm rooms the temperature of which is maintained at 90 degrees by electric control.

Other dates that are too juicy to carry satisfactorily in shipping are put in a dehydrator and the excess moisture removed.

When ready for packing, the Deglet Noor date is a rich, semi-

translucent brown in color, is firm fleshed, free from stickiness, an inch and a half in average length, and has a flavor that is all its own.

Small, ill-shaped or otherwise less desirable dates are seeded, chopped and dehydrated. The resulting product is used by confectioners and ice cream makers.

There are few agricultural products that have as interesting a background. Grown in a desert oasis where temperatures ranging as high as 115 or even 120 degrees are frequent during the summer, the palms extract from soil and air those delicious morsels which have become known and appreciated as "Nature's finest confections."



# N. C. A.'s Answer to "Reach for a Lucky Instead of a Sweet"

BY GEORGE H. WILLIAMSON

*Chairman Advertising Committee National Confectioners' Association*

To the Candy Industry:

The American Tobacco Company of New York is running the series of enclosed "Lucky Strike" advertisements in the New York newspapers, containing statements which are unfair and damaging to the Candy Industry. The same statements are being broadcast by radio over a hookup of 47 stations.

Candy is not mentioned, but to the average person "Sweets" means "Candy or Chocolate" as well as pastries or desserts, which are mentioned in one of the advertisements.

When these advertisements first appeared, Secretary Walter Hughes telegraphed the American Tobacco Company, requesting that they be

discontinued. In reply, the company stated that its advertising program had been very carefully considered before putting it into effect and it intended to go ahead with it, and that it was prepared to assume full responsibility in connection therewith.

This attack is particularly unfair to the Candy Industry, for the reason that many hundreds of thousands of dollars of cigarettes are sold by jobbers and retailers of candy.

This matter was discussed at a recent meeting of the Executive Committee. They were unanimous that this was a pernicious, unsportsmanlike attack on the Candy Industry which will have a serious and

far-reaching effect and must be met vigorously and promptly.

Authority was given the Advertising Committee to place the facts before the manufacturers, jobbers and retailers and request them to promptly and in no uncertain terms, vigorously oppose this campaign detrimental to our industry by writing to Mr. George W. Hill, president of the American Tobacco Company, 111 5th avenue, New York City.

Will you please do so at once and send me a copy of your letter, or let me know that you have done so.

Sincerely yours,

GEORGE H. WILLIAMSON,

Chairman Advertising Committee.

## The Battle Is on With "Lucky Strikes"

"WHEREAS, The current advertising of 'Lucky Strike' Cigarettes by the American Tobacco Co., which seeks to increase their sale by urging their use as a substitute for sweets, is unethical and unfair to the manufacturers and distributors of confectionery, ice cream, preserves, canned goods, soft drinks, and certain types of bakery products, and other products containing sugar in various forms, and

"WHEREAS, This advertising is an attempt to increase the use of cigarettes by decreasing the consumption of wholesome foods and is a deliberate effort to develop the cigarette habit by propaganda of the most insidious kind, which is contrary to public welfare, and

"WHEREAS, The Executive Committee of the National Confectioners' Association expresses its resentment and indignation that the American Tobacco Co. has adopted this type of advertising, which is unquestionably derogatory to candy and inimicable to the best interests of the Candy Industry, therefore be it

"RESOLVED, That unless this type of advertising is immediately discontinued by the American Tobacco Co., the National Confectioners' Association take such action as may be necessary in order to organize the Candy Industry and other allied food industries whose interests are affected by this type of advertising, and also the social and civil agencies of the country devoted to public welfare, for the purpose of combatting such propaganda by every lawful means within their power, and be it further

"RESOLVED, That the Advertising Committee is hereby authorized to immediately prepare and send to all active and associate members and to a selected list of candy jobbers and candy retailers a letter requesting that a letter or telegram be sent to the American Tobacco Co., New York City, protesting against the continuance of this type of advertising, and be it further

"RESOLVED, That the Executive Committee hereby authorizes the officers of this Association and the Advertising Committee to incur such expenses as may be required in putting this Resolution into effect."



## UNLUCKY STRIKES

at thousands of wholesale and retail tobacco distributors who depend on candy sales for a substantial share of their business profits

"I know an easy way to keep from getting fat . . . . . Light a Lucky instead of eating sweets."

*Nazimova*

There's nothing easy to do! Light a Lucky when rich women tempt you. That's what thousands of lovely women are doing—successfully. The delicious natural flavor of Lucky makes them a delightful alternative for sweets. Tasting does it. Tasting removes the temptation and improves the flavor of the finest tobacco.

Men who pride themselves on keeping fit discovered this long ago. They know that Lucky does not affect the mind nor impair digestion—men have testified, however, that it irritates the stomach to be denied the year's light taste.

"It's No Throat Irritation—No Cough."

"Pass me a Lucky—I pass up the sweets."

*Johnny Farrell*

When sweets and rich "snacks" tempt and you dread extra weight, light a Lucky instead. The mouthful and taste of Lucky—no discomfort, no trouble—just a common sense method of retaining a slender figure.

The finest tobaccos are skillfully blended to make Lucky Strike. Then, "It's Toasted." More than a dozen, this secret process brings out every essence in the tobacco and produces a flavor which makes Lucky Strike a delightful alternative when that craving for sweets comes you—there is no interference with a natural appetite for healthful foods.

Tasting does it. At the same time, smoking removes impurities. That's why 2,679 physicians are on record that Lucky Strike is less irritating than other cigarettes. Tasting does it. That's why prominent athletes have testified that Lucky does not cut the wind nor temper their physical condition. No wonder that this was discovered long ago by every man who prides himself on keeping slim and fit, who loves the "pay" that comes with health and vigor.

Remember, mouthful stimulating is no longer a secret. Next time you are tempted by sweets, light a Lucky instead, and avoid overweight.

"It's toasted"

No Throat Irritation—No Cough.

© 1936 The American Tobacco Co., Manufacturers



Smoke a Lucky instead of eating sweets."

*Anthony Quinn*

"The fact that we were not permitted to smoke from the time the (first cigarette) hit Philadelphia was for a Lucky Strike only. I cannot say my opponent I've never been for Lucky Strike—the reason being I'm delighted. I make a Lucky Strike instead of eating sweets—that's what many men have been doing for years. I think it light does us more good than any other food we eat."

The modern common sense way—smoke for a Lucky instead of a sweet. Everyone is doing it—men keep healthy and fit, women retain a slim figure.

Lucky Strike, the finest tobacco, skillfully blended, then toasted to develop a flavor which is a delightful alternative for that craving for sweets.

Lucky Strike from impurities. And 19 physicians are on record that Lucky Strike is less irritating than other cigarettes. Tasting does it. That's why prominent athletes have testified that Lucky does not cut the wind nor temper their physical condition. No wonder that this was discovered long ago by every man who prides himself on keeping slim and fit, who loves the "pay" that comes with health and vigor.

"It's toasted"

No Throat Irritation—No Cough.

© 1936 The American Tobacco Co., Manufacturers

# Let's Determine What Is Required to Put the Candy Industry in Healthier Condition

Statement of Purpose and Policy in Launching a New Specialized Publication Devoted Exclusively to Candy Buying and Selling

BY EARL R. ALLURED

President, Manufacturing Confectioner Publishing Co.

"WE want to speed the day of the return of order in food distribution," says Mr. Corbaley in his article on "Our Changing Retailers" which concludes with this statement: "As a foundation for that we should have better knowledge of how each business should be readjusted." So the American Institute of Food Distribution, Inc., was formed.

Acting on this same conviction many individual industries are making an intensive study of their manufacturing and distributing problems. Research is being applied to retail selling today as never before in the history of business. The whole distribution machinery hinges on the efficient functioning of wholesale and retail outlets.

The wholesale grocers are seeking to stabilize their position through the application of the findings from a scientific study of "how to sell groceries." Different methods of merchandising, display, store layout, etc., are being tested under practical retail conditions. Another group is studying department store selling. The American Bakers' Institute and the Ice Cream Institute and the recently formed Sugar Institute are rendering similar services to their respective industries.

We believe that a corresponding fact-finding body is needed in the confectionery industry. One division, such as a Sanitation Bureau, would direct research and educational work along lines of plant cleanliness, industrial hygiene and the health aspects of candy.

Let's show the world that we, of our own volition, have set up adequate machinery with which to properly safeguard and defend the products of our industry. Such a bureau will furnish facts with which to fight back at the propaganda which is detrimental to candy. This work would be an ideal foundation or background for both co-operative

of candy salesmen calling on the jobbing and retail trade. Note how candy retailers care for and handle their stock; check their knowledge of the qualities and characteristics of the goods they buy. How intelligently do they pass judgment on candy values? Determine how friction can be removed from the channels of distribution so that candy will flow from producer to consumer in orderly fashion, with adequate profits to all consistent with sound economic progress.

## Why Start ANOTHER Magazine!

"WHY start another magazine when 'There are too many now'? This popular 'bromide' is easily answered: *There cannot be too many of something which never existed.*

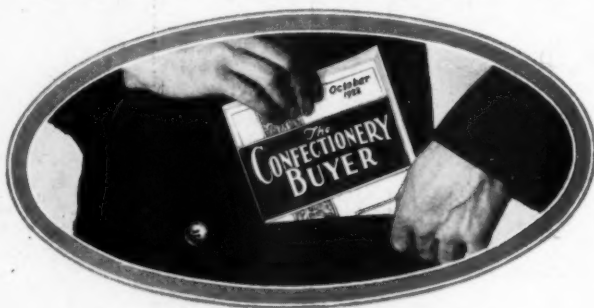
In absence of any such fact-finding body functioning as suggested above, with facilities for contacting the wholesale and large

retail buyers of candy over a national area, there is obviously a genuine economic need for a specialized publication which will tackle this job of organizing an educational campaign along candy merchandising and profit-getting lines. This job requires, first, the proper tools—a custom-built publication designed to fit the job in hand, devoted exclusively to the distributing problems of this industry.

## Policy

WE are not taking any chances on the reception which this magazine will have among the better class of large distributors. These preferred jobbers and large retail

## "Essentially a Merchandising Publication"



## It Fits the Pocket and the Field of Candy Distribution

advertising and individual selling campaigns.

### A Purpose

ANOTHER division of the work of a fact-finding body, such as a *Candy Research Institute*, would be to study selling and distribution problems, particularly the science of candy retailing. By utilizing various types of retail candy outlets as their laboratory and studying the consumer reactions to different merchandising and display methods, layout of candy department and the attitude of retail salespeople, some very valuable deductions might be made.

Then study the buying methods of jobbers, retailers, the solicitations

buyers of candy are not at all "burdened" with too many publications. We have sounded out the policy and purpose and editorial formula of this publication among the substantial distributing factors of this industry for the past year or two and we find there is a very keen anticipation for *The Confectionery Buyer*. The candy manufacturers who feel obliged to "support" all the publications in the industry, irrespective of the advertising values offered or their respective fitness to the marketing policies and plans in question, will not be urged to add *The Confectionery Buyer* to their advertising schedule until they will approach our proposition from a different viewpoint, eager to recognize real merit in a modern business publication and face this new epoch of industrial journalism with a wide open mind.

This publication does not want any "support" in the usual sense of the word. But on the other hand, *The Confectionery Buyer* is built to support the marketing structure of reputable manufacturing confectioners who realize that their sales and profits are directly dependent on the efficient functioning of their wholesale and retail distributing outlets.

#### Just Wherein Is This Publication Different Than Others?

**T**HIS is NOT a medium for advertising machinery or supplies for manufacturing candy, and the news and discussions of direct interest to manufacturers only has no place in *The Confectionery Buyer*. No comments on raw materials, markets, nor candy shop formulas, nor any of the gossip of the manufacturing fraternity except that which has some direct significance to large distributors of candy.

We have mobilized a separate editorial staff, composed of the most able men available, who have had a background of successful experience in the distribution of candy.



**WAINWRIGHT DAVIS**  
Secretary Midland Confectioners Association and Managing Editor of *The Confectionery Buyer*.

**"O**UR own educational policy along merchandising and profit getting lines will be to assemble information of practical interest and reference value to buyers of candy.

We will be particularly diligent in helping the wholesale distributors in getting onto a profitable basis. In this objective, our aim will be focused on the jobber's salesmen who must be competent to counsel with their customers and in a large measure assume the responsibility for the retailer's success, as far as the candy department is concerned.

—Wainwright Davis.

The problems of production and factory management will be conspicuous by their absence in this magazine. *The Manufacturing Confectioner* adequately serves the manufacturing market. These two publications do not overlap in the least.

We have concentrated on manufacturing problems for the past seven years. Now we have added another division, separate and distinct from our technical service which will concentrate on the marketing and distribution problems of the confectionery industry. We believe no greater service can be rendered the manufacturer than to launch an educational campaign to help the distributors of confectionery to buy and sell candy more intelligently by bringing before them each month practical information on how modern candy purchasing and merchandising is being applied with profit.

We recognize that a candy buyer's job is mainly *selling*, however, the buyer is the individual we have to work on and through; he is our contact man. This explains why we selected the title for this new publication which would instantly and unmistakably signify exactly whom we are talking to.

The title gives the magazine a definite identity—the field we reach is so clearly defined—which is refreshing in this age with so many generalized mediums whose zone of influence is more or less indefinite.

*The Confectionery Buyer* is destined to be a vitally essential factor in helping the manufacturer to carry his message to the consumer most effectively and economically via the wholesale or retail route, or both.

Advertising rates and suggestions for a marketing plan to buyers of candy will be sent on request. The subscription price is \$5.00 for 3 years. No charge for sample copy.

#### Tendencies Toward Better Business

- 1—Young men entering business with better education in fundamentals and economics and with specialized training for specific problems of industry.
- 2—Government agencies taking greater interest and a more constructive attitude toward business, notably the Federal Trade Commission, Department of Commerce, and Department of Justice.
- 3—More intelligent cooperation between competitive manufacturers and distributors through constructive association work under able leadership.
- 4—Better Business Press—Specialized publications which fill a genuine economic need, better edited and equipped to render more and better service to industry.

F. M. FEIKER.

(From address before the American Trade Association Executives.)



# N. C. A. Awards 40 Prizes in National Candy Week and Sweetest Day Window Display Contest

**T**HE JUDGES in the National Candy Week and "Sweetest Day" window display contest deliberated for more than two days in making their selection from among the hundreds of photographs received from every section of the country in one of the most successful contests ever conducted in the confectionery industry.

The judging committee consisted of John W. Champion, advertising and sales manager of the Reliance Manufacturing Company, Chicago, Ill.; J. W. Westbrook, advertising manager of the Calumet Baking Powder Company, Chicago; and D. D. McKiernan, vice-president of the Geo. F. McKiernan Company, specialists in window display material. None of these men are in any way connected with the candy industry and because of this were sure to be impartial in their awards. All

of them are considered experts in window displays and we feel fortunate in being able to obtain their service in connection with our contest.

So many unusually fine windows were entered in the contest that it was a tremendous task to select the winners. A gradual process of elimination brought the number down to 16, from which the final major awards were made.

## The System of Judging

The method used in coming to their final conclusion was a system of scoring, whereby first place counted for one, second for two, etc., throughout the 16. Each judge cast his votes and the total for each entry was added and those having the best score were considered winners in their proper rotation.

It is interesting to know that the

first three prizes were unanimously selected and the next four were picked in a very close race.

In addition to the seven major prize winners there were 33 additional prizes of \$10 and \$5.

Checks covering these awards have been mailed to the winners and an announcement of the release is being mailed to all entrants.

The national sales promotion committee wishes to express its grateful appreciation for the interest confectioners have taken in the contest and also wish to announce that this year's contest has been so successful that another will be planned for Candy Week and "Sweetest Day" next year.

C. J. NADHERNY,  
Advertising Manager, National  
Confectioners' Association,  
180 West Washington Street,  
Chicago, Ill.



This window of Kronenberg's, Spokane, Wash., took third prize in the National Sweetest Day Window Display Contest.

What a contrast to the average candy windows of Chicago's loop during Candy Week where a tie up with the National Sweetest Day idea was conspicuous by its absence.

## Complete List of Winners of the \$1,000.00 Window Display Contest of the National Confectioners Association

**First Prize—\$250.00,** The Dern Company, Colorado Springs, Colo. Miss A. E. Smith, Display Manager.

**Second Prize—\$150.00,** Fred Sanders, 9108 Grand River Ave., Detroit, Michigan. James Cain, Store Manager.

**Third Prize—\$100.00,** Kronenberg's Confectionery, 707 Riverside Ave., Spokane, Washington. E. A. Pendleton, Display Manager.

**Fourth Prize—\$75.00,** Kunze's, 18 E. Randolph St., Chicago, Ill. Herman Wistrand, Display Manager.

**Fifth Prize—\$50.00,** Taft & Pennoyer Co., Oakland, California. Herman Stein, Display Manager.

**Sixth Prize—\$35.00,** Nuss, Philadelphia, Pa.

**Seventh Prize—\$25.00,** Baur's, Denver, Colorado.

**8th to 37th Prizes—\$10.00**

**John E. Snyder—**510 Main St., Peoria, Ill.

**Dows Drug Company,** Store No. 23, 4th and Vine, Cincinnati, Ohio. Chas. E. Leshman, Display Manager.

**Wolius,** Boston Road and 169th St., New York, N. Y.

**Beardon Drug Co.,** Rhinelander, Wis. O. S. Krumm, Display Manager.

**Bartell Drug Co.,** Store No. 9, Seattle, Wash.

**Keeley Ice Cream Co.,** Salt Lake City, Utah. R. H. Parry, Display Manager.

**Bowman's Pharmacy,** 601 Francis St., St. Joseph, Mo. C. O. Bowman, Display Manager.

**Goebel's,** 4323 Lancaster Ave., Philadelphia, Pa. G. A. Goebel, Display Manager.

**MacDiarmid Candy Co.,** 726 Euclid Ave., Store No. 3, Cleveland, Ohio. Mrs. Shanda.

**H. E. McCormick,** 131 Harding Way, East Galion, Ohio.

**Fraser Grey,** 1410 31st Ave., Oakland, Cal.

**Golden Pheasant, Inc.,** Powell and Geary Sts., San Francisco, Cal.

**Delite Annex,** Hudson, Wis. Mrs. Chas. Stauner, Display Manager.

**O. N. Johnson Dry Goods Co.,** Galesburg, Ill.

**The Hill,** City Unknown.

**Century Drug Store,** Hattiesburg, Miss.

**Leland's Book Store,** Washington, C. T., Ohio. Eugene Wilson and Esther Leland, Decorators.

**National Pharmacy,** 1167 Elm St., Manchester, New Hampshire. J. Urbanowicz, Display Manager.

**Martha Washington Candies,** 4040 West Madison St., Chicago, Ill.

**Oneida Pharmacy,** Rhinelander, Wis. A. A. Koppa, Display Manager.

**Smith Falls Candy Kitchen,** Smith Falls, Ont.

**Lorraine, Inc.,** Upper Mount Clair, N. J. 627 Valley Rd.

**McKenney Bros.,** Shelbyville, Ind.

**Candy Products Co.,** 198 Franklin St., Springfield, Mass. Donald A. Proulx, Display Manager.

**Lang Grocery,** Beatrice, Nebraska.

**J. A. Klingstedt Drug Store,** 1030 Broadway, Rockford, Ill. Ralph E. Ladd, Display Manager.

**Bartlett's Drug Store,** Marion, Ohio.

**Stock Bros.,** Arthur, Ill.

**Gilbert's Confectionery,** Berlin, N. H.

**Mrs. Knoch,** 844 N. Patterson Park Ave., Baltimore, Md.

**38th to 40th Prizes—\$5.00**

**Uni Drug Co.,** 500 N. 14th St., Lincoln, Neb. Glen McMillan, Display Manager.

**Schram-Johnson Drugs,** 63 S. W. Temple St., Salt Lake City. A. E. Smith, Display Manager.

**Campbell Drug Store,** 138 Campbell Ave., West Haven, Conn. Abraham Cohen, Display Manager.

### Professor B. I. Masurovsky Directs Technical Service Dept. of Coignet Gelatines

Professor B. I. Masurovsky, well-known chemist and technologist will have full charge of the Coignet Gelatine Technical Department, established for the purpose of giving scientific service to the confectionery, ice cream and dairy industries and doing research work in the edible field in relation to the use of gelatine.

Professor Masurovsky is a graduate of the New Jersey State Agricultural College, where he specialized in dairying, and he studied bio-chemistry at Columbia University and nutritional chemistry at the University of California. He enjoyed a research fellowship with the dairy industries department of the Nebraska State Agricultural Experiment Station and acted as dairy instructor for Nebraska State College of Agriculture.

He is a member of the American Dairy Science Association of the Scientific Society of Sigma Xi, the American Association for the Advancement of Science. He has published various technical and semi-technical articles on ice cream making, gelatines, and nutritional chemistry in leading periodicals and has been active in the ice cream and confectionery fields as a consultant chemist and technologist.

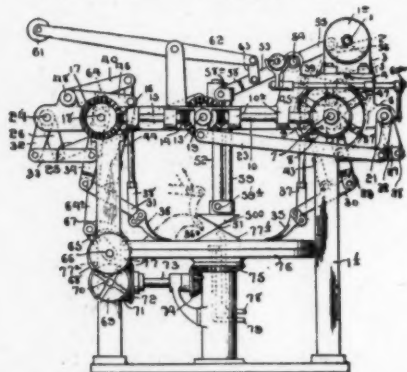
We understand Professor Masurovsky has applied himself to considerable research work on Marshmallow making with some interesting results.



Judges were unanimous in their choice of first place awarded to The Dern Company of Colorado Springs, Colorado.

# WHAT'S NEW?

**1,639,319. Candy Mixing and Kneading Machine.** Walter S. Weber and Earl T. Snyder, Reading, Pa.; said Walter S. Weber assignor to Robert



Carl Rahm, Wyomissing, Pa. Filed July 3, 1924. Serial No. 723,900. 15 Claims. (Cl. 107-33.)

5. A mixing and kneading machine including a table adapted to support a slab of plastic material, means for cooling the surface of the table to prevent said plastic material from adhering to the table, combined scraping and paddling blades operating over the table and adapted to fold edge portions of the slab toward the center of the table, means for moving said blades toward and away from the center of the table, and means for spreading out the slab on the table.

**73,381. Candy Box.** Imogene Kidder, Portland, Oreg. Filed Feb. 14, 1927.



73,381

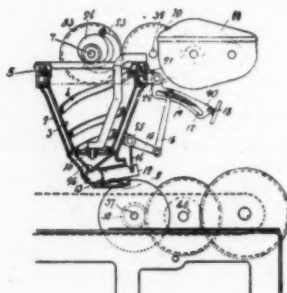
Serial No. 20,757. Term of patent  $3\frac{1}{2}$  years.  
The ornamental design for a candy box, as shown.

**1,662,354. Process of Coating Molds and Product Thereof.** Harry M. Williams, Dayton, Ohio, assignor to General Motors Research Corporation, Dayton, Ohio, a Corporation of Delaware. Filed Jan. 10, 1925. Serial No. 1,580. 6 Claims. (Cl. 22-192.)

1. A process of preparing metallic molds for receiving molten metal

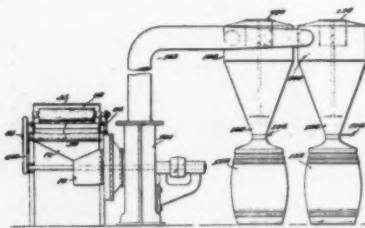
which consists in applying to the molding surface a coating of finely divided refractory material comprising a substantial proportion of the refractory reduced to an impalable powder, and then heating the coated mold at a temperature and for a period of time sufficient to effect aggregation of the impalable particles into a coherent mass.

**1,645,505. Machine for Casting Chocolate.** Jens Johannes Jensen, Copenhagen, Denmark, assignor to Bogild & Jacobsen, Copenhagen, Denmark. Filed Oct. 12, 1926. Serial No. 141,215, and in Germany Feb. 24, 1926. 9 Claims. (Cl. 107-28.)



1. In a machine for casting chocolate, an oscillatable hopper, oscillating means therefor, a pump attached to the hopper, a mold plate with molds therein, said mold plate being movable at a uniform speed below the pump, and means for adjusting the length of oscillations of the hopper.

**1,679,371. CONFECTIONERY APPARATUS.** Fred Forrest Pease, East Braintree, Mass., assignor to F. F. Pease, Inc., Boston, Mass., a corporation of Massachusetts. Filed Jan. 6, 1923, Serial No. 611,192. Renewed Nov. 30, 1927. 11 Claims. (Cl. 107-44.)



7. Apparatus for the manufacture of confectionery comprising a screen surface adapted to support a mass of starch with fondant centers embedded therein,

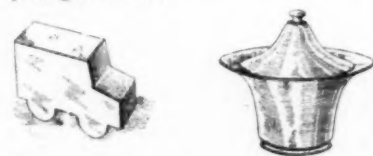
means for inducing a current of air through the screen surface and mass of starch supported thereby to remove particles of starch and sugar surrounding the centers, a revolving screen located in the air current designed to separate particles of sugar from the starch and air, and means for finally separating the starch from the air.

**74,582. Candy Box.** Florence A. Thomson, Philadelphia, Pa. Filed Nov. 15, 1926. Serial No. 19733. Term of patent 7 years.

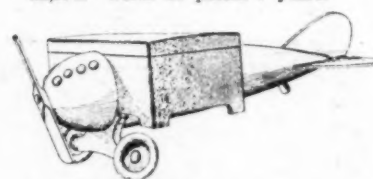
The ornamental design for a candy box as shown.

**74,522. Candy Package.** Alfred Rozowski, New York, N. Y. Filed May 21, 1923. Serial No. 6,235. Term of patent  $3\frac{1}{2}$  years.

The ornamental design for a candy package as shown.

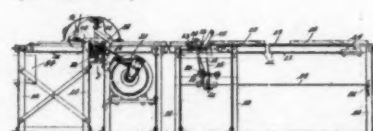


**73,899. Box or Similar Receptacle for Candy.** Edward J. Daigle, Sheridan, Wyo. Filed Aug. 1, 1927. Serial No. 22,970. Term of patent 7 years.



The ornamental design for a box or similar receptacle for candy, as shown.

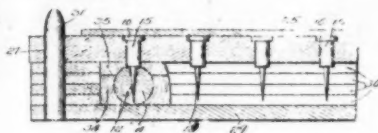
**1,688,668. Candy-Cutting Machine.** George Sorensen, Chicago, Ill. Filed Oct. 4, 1926. Serial No. 139,320. 12 Claims. (Cl. 107-21.)



5. A machine for automatically cutting candy or the like adapted to receive the candy in the form of a slab resting on a flexible sheet, comprising feed-in intermediate and discharge conveyors, said conveyors being arranged in longitudinal registration with each other with gaps between them; withdrawing rollers associated with said first gap and arranged to withdraw said flexible sheet there-through; and cutting elements arranged in said other gap, substantially as described.

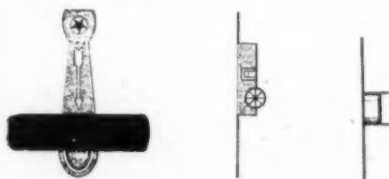


1,645,260. Method and Apparatus for Making Confections. Edward Sprague, Jr., Chicago, Ill., assignor of forty-nine one-hundredths to Blanche K. Dustin, Chicago, Ill. Filed Feb. 29, 1924. Serial No. 696,018. 8 Claims. (Cl. 107-1.)



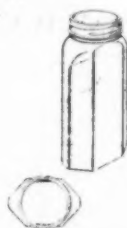
2. A method of making confections consisting in assembling a plurality of filler elements in a definite arrangement, thence securing them in fixed spaced relation by suitable securing means to maintain them in their relative positions, thence immersing the assembled elements in a suitable base of viscous material and after an interval removing the securing means, and thence cutting the base at points between the spaced filler elements to provide pieces of the desired size and shape.

74,982. Stick-Candy Wrapper. Charles R. Luce, New York, N. Y. Filed Jan. 20, 1928. Serial No. 24,943. Term of patent 14 years.



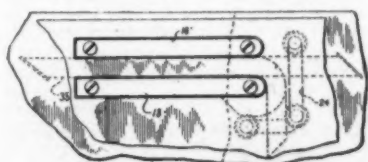
The ornamental design for a stick candy wrapper substantially as shown.

74,956. Candy Jar. Alfred S. Adams, Willis Burton Adams, and Paul S. Moyer, Chicago, Ill. Filed Nov. 29, 1926. Serial No. 19,877. Term of patent 14 years.



The ornamental design for a candy jar as shown.

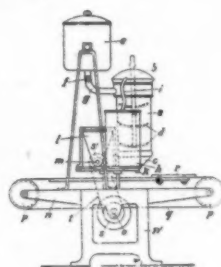
1,680,440. Candy-Forming Machine. Brasier O. Westerfield, Detroit, Mich., assignor of one-half to Edgar C. Cox, Detroit, Mich. Filed Nov. 21, 1921. Serial No. 516,519. 6 Claims. (Cl. 107-4.)



1. A candy forming machine comprising a strip receiving portion; means

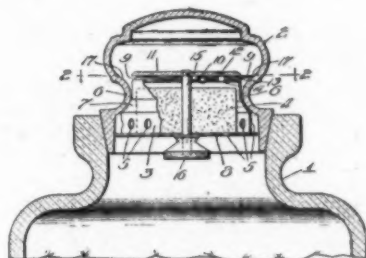
for dividing said strip into a plurality of parts; a plurality of forming members, and means for forcing a portion of each of said parts around one of said members for forming a crook adjacent one end of each of said parts simultaneously.

1,682,146. Device for Producing Confectionery Containing an Aromatic Liquid. Carl Riebe, Dresden-Neustadt, Germany. Filed Oct. 4, 1926. Serial No. 139,514, and in Germany Dec. 15, 1924. 1 Claim. (Cl. 107-4.)



A device for producing confectionery containing aromatic liquids comprising, in combination, a mixing vessel with superimposed boiler, a condenser arranged near the said mixing vessel and being connected with same, the said mixing vessel being provided at its lower end with a discharge orifice for the mixture, a powder container arranged near the mixing vessel, and a conveyor traveling below the mixing vessel and the powder container for receiving the molds.

1,682,243. Candy Jar. Robert G. Peck and Albert Brown, Chicago, Ill., assignors to The Aridor Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 30, 1923. Serial No. 677,835. 8 Claims. (Cl. 215-48.)



1. A candy jar cap having a hygroscopic pad holder removably mounted therein, said holder having on its upper side a plurality of devices arranged and operating in a horizontal plane and operable from the lower end of the holder, said devices adapted to be retracted to clear a constriction in the cap and to be projected from the upper end of the holder to engage the interior of the cap to support the holder therein.

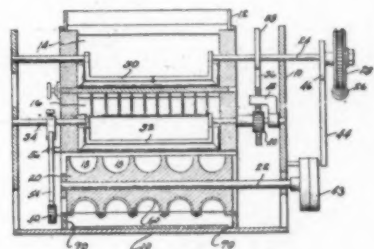
1,683,542. Candy Package. George W. Greenwood, Wilmington, Del., assignor to Stephen F. Whitman & Son, Inc., Philadelphia, Pa. Filed June 24, 1927. Serial No. 201,232. 2 Claims. (Cl. 206-46.)

1. A candy package comprising a plurality of similar pieces of candy superposed on one another, and having notches



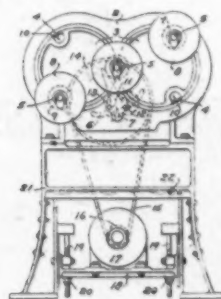
formed in their edges diametrically opposite one another, and flexible means passed around said package and seated in the notches of a candy piece forming one end of the package to prevent separation of the candy pieces from each other and of the said means from the package as a whole.

1,685,605. Candy-Making Machine. James N. Kalkanis, Detroit, Mich. Filed Feb. 18, 1926. Serial No. 88,988. 5 Claims. (Cl. 107-8.)



1. In a machine of the class described, a frame, a mixing chamber having a discharge opening, a rotatably supported mold carrier having a mold adapted to be brought into position to receive the discharge of the mixing chamber during the rotation of the carrier, means for rotating said mold carrier, a cutter operatively supported upon the frame in proximity to but exteriorly of the mold carrier adapted to be swung through the mold between the surface thereof and the product therein to loosen the molded product therefrom, and means coupling the cutter with the mold carrier for operation in coordination therewith.

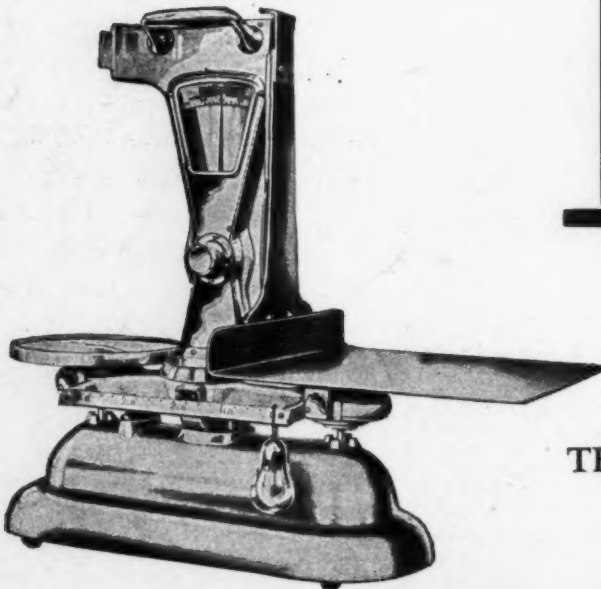
1,685,741. Candy-Pulling Machine. Walter Geist, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis., a Corporation of Delaware. Filed Aug. 22, 1925. Serial No. 51,796. 14 Claims. (Cl. 107-30.)



3. In combination, a pair of rotary disks, a roller movable by and periodically transferable from one of said disks to the other, a support carried by said roller, and a pin carried by said support, said pin being freely removable from said support.

# Small Packages Make OVERWEIGHT fatal to profit

The **ONLY**  
**SCALE** in  
the **WORLD**  
that gives one  
hundred 1 lb.  
packages from  
one hundred  
pounds of bulk  
weight in fast  
weighing ❀ ❀



**T**HE present trend toward small packages means simply this: Accurate Scales **MUST** be used. Overweight errors **MUST** be eliminated. And in addition weighing speed **MUST** be increased.

Take a pencil and figure out the importance of small overweights. In one-pound packages  $\frac{1}{4}$  ounce overweight means 1.52% loss. . . . It means that you are giving away one and one-half pounds of expensive candy with every hundred packages. In half pound packages  $\frac{1}{4}$  ounce overweight means a loss of over 3% . . . . an hourly, daily, weekly loss that accumulates into a stupendous total when figured over your entire year's production. If you are trying to get along with ordinary scales let us show you why you cannot afford to do so any longer.

"EXACT WEIGHT" SCALES will **ELIMINATE** overweight in your plant. . . . They are doing so in thousands of manufacturing plants all over the civilized world. Their speed and amazing simplicity enable you to use cheaper labor with the assurance of faster, more accurate results.

Let us tell you the whole story. Let us send you a partial list of candy manufacturers who are now using "EXACT WEIGHT" SCALES. . . . Or better yet, let us send a field engineer to prove (by actual check-weights against your present weighing equipment), that "EXACT WEIGHT" SCALES will save you money.

**THE EXACT WEIGHT SCALE CO.**

*Formerly the Smith Scale Co.*

511 W. Spring Street, Columbus, O.

*Canadian Representatives*

W. & T. AVERY, Ltd., TORONTO MONTREAL

## "EXACT WEIGHT" SCALES

Sales and Service in All  
Principal Cities

Many models to choose from  
weighing 1/100 oz. to 1000 lbs.

ter

CO.

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lbs.